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YOSEMITE VALLEY.

GUIDE TO CALIFORNIA.

PART I.

It is customary for through trains from Chicago to the Pacific Coast to leave that city at night. Description of a State which the traveler is assumed to be in the act of quitting, or of its immediate neighbor on the west, which will have been crossed and left far behind before the dawn of another day, may be confined to narrow limits, and in the nature of the case a brief and somewhat general mention will suffice for the features of the entire region east of Kansas; for while Illinois, Iowa and Missouri are indeed western, the West lies farther on, and the active curiosity of the tourist is usually directed more particularly toward that section of the country which is beyond the Missouri River, whose channel lies almost at the threshold of our journey, in the very heart of the United States. Across and beyond it our way lies on and on, over still wider prairies, over mountain passes, over deserts in the sky, and down again to where the blue waves of the Pacific beat upon sunny sands, and the olive and fig and orange grow.

In the prospect of such an array of varied and interesting scenes as mark a journey to the Pacific Coast, therefore, only an enumeration of a few landmarks and mile-posts will be attempted until, the first night having passed, there is something to see and inquire about.

The many other depots that furnish terminal facilities are spacious and substantial. The 1,400 hotels in the city accommodate 200,000 people.

The first building on the present site of Chicago was erected in 1779 by a negro named Jean Baptiste Point de Sable. The first white inhabitant was John Kinzie, an Indian trader, who became possessor of this man's hut in 1804. In 1825 Chicago was a hamlet, consisting of fourteen cabins. It was incorporated as a town in 1833, with a population of 150. The first paper was issued November 26, 1833. In 1837 the population had increased to 4,170. The year previous the first railroad—the Galena & Chicago Union—entered the town. From that time the city rapidly grew until the fire of 1871 swept away the greater part, and destroyed property valued at \$196,000,000. It soon started afresh on its course of progress, which has gone on uninterruptedly until the present day, except for the check caused by the second fire in 1874. Perhaps the feature that most strikes the visitor is the great number of immense and lofty business blocks. The Monadnock Block, Dearborn Street and Jackson Boulevard, contains a business population of over 5,000. The city covers an area of 190 square miles, 2,232 acres of which are public park. It will surprise many to know that Chicago is the greatest port in America, and the third, if not the second, in the world—Liverpool, and possibly London, taking precedence of it.

The Drainage Channel.—By daylight excellent views are had from the train of this, the greatest engineering work of America, which aside from its primary purpose is likely at some future day to be used as a route for vessels between the Great Lakes and the Gulf of Mexico by way of the Des Plaines, Illinois and Mississippi rivers. An idea of the immensity of this undertaking may be gained from the following facts: The length of the completed main channel, from its junction with the west fork of the south branch of the Chicago River at Robey Street, Chicago, to Lockport, is twenty-eight miles. The right of way alone, approximating 6,500 acres of

land, cost nearly two and a half million dollars. About 14 miles of excavation were in earth, 6 miles in earth and glacial drift, and 8 miles were blasted out of solid rock. The width at the top of the earth sections is 306 feet; at the bottom, from 110 to 202 feet. The rock sections are 160 feet wide, the walls being vertical. The greatest depth is 46 feet, and the average is from 30 to 36 feet, calculated for a depth of 22 to 24 feet of water and a flow of 360,000 cubic feet per minute, and the relation of the earth sections to the rock sections is such that the flow can be increased by dredging the former. The entire cost was over \$30,000,000. The practical problems presented by so tremendous a project were numerous and difficult, and remarkable machines were devised to perform the larger part of the vast labor of digging, drilling, sawing, lifting and transporting. Steam shovels and drills, cableways, revolving derricks, cantalever conveyers, etc., were made to work like creatures of intelligence and with almost miraculous power. The rate at which the work was prosecuted may be inferred from the fact that five tons of dynamite were often used in a single day in the rock sections, and that a single blast made a dislodgement many feet deep across the entire width of the excavation.

By the use of the Drainage Channel the current of the lower portion of the river is reversed, and the pure water of Lake Michigan takes its place, diluting with its enormous volume and active flow the sewage of the city and bearing it away in harmless form, instead of receiving its pollution and holding it as a constant menace to the health of the millions who draw from the lake their daily water supply.

Joliet.—Chicago, 41 miles; Los Angeles, 2,224 miles; San Diego, 2,307 miles; San Francisco, 2,536 miles. Altitude, 553 feet. Population, 30,720. Junction with Chicago, Rock Island & Pacific Railway, Chicago & Alton Railroad and Elgin, Joliet & Eastern Railway (Belt Line).

An important manufacturing city on the Des Plaines River. The State penitentiary stands on the left of the railroad track,

and on the right are the rolling mills of the Illinois Steel Company and the wire works of the Consolidated Steel & Wire Company.

Streator.—Chicago, 94 miles; Los Angeles, 2,171 miles; San Diego, 2,254 miles; San Francisco, 2,483 miles. Altitude, 640 feet. Population, 14,079. Junction with the Wabash Railroad, Chicago & Alton Railroad and Chicago, Burlington & Quincy Railroad.

A manufacturing and coal-mining city situated on the Vermilion River.

Galesburg.—Chicago, 182 miles; Los Angeles, 2,083 miles; San Diego, 2,166 miles; San Francisco, 2,395 miles. Altitude, 771 feet. Population, 20,000. Junction with Chicago, Burlington & Quincy Railroad and the Fulton County Narrow Gauge Railway.

A manufacturing city. Also a center of importation of European draft horses.

Mississippi River Bridge.—Chicago, 236 miles. 3,240 feet long and 32 feet above low-water mark.

IOWA.

Ft. Madison.—Chicago, 237 miles; Los Angeles, 2,028 miles; San Diego, 2,111 miles; San Francisco, 2,340 miles. Altitude, 537 feet. Population, 10,022. Junction with Chicago, Burlington & Quincy Railroad and Chicago, Ft. Madison & Des Moines Railway.

An important Mississippi River port and manufacturing center.

From Ft. Madison the route crosses the southeastern corner of the State of Iowa from the Mississippi River to the Des Moines River, a distance of twenty miles.

MISSOURI.

Marceline.—Chicago, 352 miles; Los Angeles, 1,913 miles; San Diego, 1,996 miles; San Francisco, 2,225 miles. Altitude, 873 feet. Population, 2,638. Junction with Chicago, Burlington & Kansas City Railway.

Lexington Junction.—Chicago, 416 miles; Los Angeles, 1,849 miles; San Diego, 1,932 miles; San Francisco, 2,161 miles. Altitude, 709 feet. Junction with Wabash Railroad. Diverging point of the line of the Santa Fe to St. Joseph, Mo., and Atchison, Kan.

Missouri River Bridge.—Chicago, 429 miles. 7,552 feet long, including approaches, and 92 feet above low-water mark.

Kansas City (Union Depot).—Chicago, 458 miles; Los Angeles, 1,807 miles; San Diego, 1,890 miles; San Francisco, 2,119 miles. Altitude, 765 feet. Population, 163,752. Junction with Chicago, Rock Island & Pacific Railway; Hannibal & St. Joseph Railroad; Burlington & Missouri River Railroad; Kansas City, St. Joseph & Council Bluffs Railroad; Wabash, St. Louis & Pacific Railway; Chicago & Alton Railroad; Missouri Pacific Railway; Kansas City, Fort Scott & Memphis Railroad; Union Pacific Railway; Chicago, Milwaukee & St. Paul Railway; Chicago Great Western Railway; Kansas City, Wyandotte & North-Western Railroad; Kansas City, Pittsburg & Gulf Railroad; Kansas City, Osceola & Southern Railway.

The city is located on the south bank of the Missouri River. It is a city of hills and bluffs. The residence portion, as well as most of the business district except that which naturally clusters closely around railroad terminals, lies above and on the right. The steeply inclined bridge over the track, just beyond the Union Depot, over which cable cars are passing, leads to the main part of the city.

It was at first a landing-place for river steamboats, and was known as Westport Landing. The first stock of goods was thus landed in 1834. In the course of the next half a dozen

years a few frame houses were erected, but so late as 1853 the inhabitants numbered only 478. The arbitrary laws of commerce, however, had decreed that at this point a great city should arise, and in 1870 the population had increased to 32,286. In 1885, 128,474 people dwelt here, and the commercial activity of the city had become something extraordinary. It offers to the traveler from older communities a striking example of the rapidity of western progress. It is second only to Chicago in pork-packing and beef-canning and in the number of live-stock handled in its stock-yards. Ore-smelting and numerous manufactures are also carried on upon a large scale. It is a transcontinental gateway, and the natural trade center for much of Missouri, Kansas, Arkansas, Texas and Colorado, and for Oklahoma, New Mexico and Arizona, the distribution of its wares and the absorption of much of the products of the regions named being rendered easy by water-carriage and by the many railroads that center here.

It is really composed of two cities—Kansas City, Mo., and Kansas City, Kan., the population of each being, respectively, 163,752 and 51,418.

KANSAS.

The name is Indian, and was borne by the particular people whom the first settlers of Kansas found in possession of the country. The French fur traders—*voyageurs*—had stations here nearly a century and a half before it was actually settled. Coronado's extraordinary expedition from Mexico in 1540 extended as far as the northern boundary of this State, which he appears to have traversed in a northeasterly direction. His advent into this particular region was barren of result. In 1719 a second Spanish invasion came from New Mexico to occupy the country in advance of the French, who were actively exploring the Missouri River, but the Spaniards, with the exception of a priest, were massacred by the Indians. A large tract of central North America thereupon fell to France.

It stretched from the Gulf of Mexico north to British America, and from the Mississippi River west to a line which serves now for the eastern boundary of Texas, thence along the north bank of the Arkansas River to central Colorado, and from there irregularly northwest to a point near the upper western corner of Montana. This was the province of Louisiana, whose entire purchase by the United States was completed by the treaty of April 30, 1819. The little southwestern corner of Kansas below the Arkansas River was subsequently acquired from Mexico in the final solution of the Texas struggle. In 1823 a trading route was established between Booneville (now Franklin), on the Missouri River, and Santa Fé, in New Mexico. Nine years afterward Independence, near Kansas City, became the point of outfitting and departure for western freighters. The story of the Santa Fé trail is one of the most romantic and tragic chapters in the history of the West. The Indians promised it freedom from molestation, in a council meeting with United States Commissioners, but the old trail marks a line of blood across many hundred miles of plain. Ambuscade and butchery, with all the fearful details of savage warfare, were a daily occurrence. Fort Leavenworth was established to protect the traders, and escorts of mounted soldiers accompanied the wagon trains. This trade with Santa Fé and the Southwest became in time so great as to employ thousands of men and wagons. The trail led along the Arkansas River, over the Raton Pass from Colorado to New Mexico, thence through Wagon Mound and Las Vegas to the New Mexican capital. The course of the Santa Fe is almost identical with the old trail throughout. The military post at Fort Leavenworth was established in 1827, and there, in 1850, the first real settlement of Kansas began. In ten years Kansas numbered a hundred thousand inhabitants, and in 1861 was admitted to the Union.

The greater part of Kansas was originally included in the extensive Territory of Missouri, that portion of the Louisiana province purchased from the French in 1803. A portion of



KANSAS CATTLE.



A KANSAS WHEAT FIELD.

that Territory became the State of Missouri in 1821, after long opposition on the part of the anti-slavery States, by virtue of the Missouri Compromise, a compact which resulted in the passage of an act forever forbidding slavery in all that part of the Louisiana purchase north of $36^{\circ} 30'$, except within the comparatively small bounds of the newly admitted State of Missouri. In 1854 that act was repealed, and each new commonwealth arising in the formerly exempted Territory was left free to settle the question for itself. In Kansas the struggle of the two great sectional ideas for supremacy was a bitter contention, and here the armies of North and South first encountered. John Brown first became famous in connection with this Kansas war, and the State won the sobriquet of "Bleeding Kansas." Property was destroyed and lives were sacrificed, until in 1859 the question at stake was settled by the adoption of a constitution forbidding slavery. In the immediately ensuing Civil War the State suffered further, and not until the close of ten years' strife did these men who had so actively contended for opposing principles find uninterrupted opportunity to develop the resources of the State. The building of railroads was wisely encouraged by immense grants of land in alternate parcels contiguous to several proposed lines, conditioned upon actual construction within a specified period. Eastern capital promptly seized the proffered opportunity, the sale and settlement of the acquired lands was undertaken by the recipient corporations through numerous agencies both at home and abroad, and in consequence immigrants poured into the State by thousands, from the Middle and Eastern States and from foreign countries. In 1870 the population had increased to 364,369. In 1880 it was 996,096. The United States census of 1900 gave 1,470,495.

It boasts a smaller percentage of illiteracy and crime than any other community of which such statistics are kept. There are about 4,000 churches and 9,000 schools within its borders.

Kansas comprises an area of 82,080 square miles in the center of the Union. It is an inclined plane, with undulating



KANSAS STATE UNIVERSITY, LAWRENCE, KAN.



KANSAS AVENUE, TOPEKA, KAN.

surface, rising easily from an altitude of about 750 feet upon the east to nearly 3,500 feet at the western boundary. Although a prairie country, it is neither flat nor monotonous, but rolls in gentle billows, forming a pleasing pastoral landscape that becomes exceedingly beautiful in summer.

Progressing westward the amount of rainfall and the number of small streams decrease, until in the extreme western counties a condition of aridity is reached that, over large areas, thus far has proved hostile to agriculture, except in the moister valleys, or where the waters of the Arkansas can be diverted by means of irrigating ditches, although in many localities artesian wells provide a good supply of water.

The rock formations that underlie Kansas have yielded great numbers of fossils of the most uncouth and gigantic prehistoric animals, many specimens of which are exhibited in the National Museum at Washington.

The climate is healthful, and commonly very agreeable. Even when in midsummer the sun becomes torrid and the air oppressive through the day, with nightfall a delicious breeze blows over the prairie, and after the hottest day the Kansan sleeps in comfort. The winters are commonly mild. For persons who have weak lungs it is a desirable dwelling place, and several points in the western part, where the altitude is less pronounced than in Colorado or northern New Mexico, are utilized by sensitive patients journeying to those regions for recuperation as temporary stopping places where to accomplish a gradual adjustment to greater elevations and more rarefied air.

Kansas is most familiarly known to the world as an agricultural and grazing State. It produces in immense quantity corn, wheat, oats, barley, rye, buckwheat, flax, hemp, potatoes, broom-corn, sorghum, and no little cotton and tobacco. Fruits are grown in profusion, and vast numbers of horses, mules, sheep, swine and cattle are raised. A large aggregate capital is invested in manufactures, chiefly flour, meats, lard, sugar and

salt. Mines of coal and lead and stone-quarries are worked extensively.

Lawrence.—Chicago, 499 miles; Los Angeles, 1,766 miles; San Diego, 1,849 miles; San Francisco, 2,078 miles. Junction with Union Pacific Railway and Atchison, Topeka & Santa Fe lines from southern points in Eastern Kansas. Altitude, 837 feet. Population, 10,862.

A city of New England appearance and character, on the Kansas River. Site of the United States Government Indian School (Haskell Institute), and of the State University, whose seven structures crown Mount Oread, west of the city. The dam across the river furnishes excellent water power for a number of manufactories—of flour, paper, wire and nails. Lawrence was settled in 1854, and was the center and capital of the Free State side of the Kansas struggle, and the headquarters of John Brown during that trying period. It was burned on August 21, 1863, by the rebel guerrilla, Quantrell, who, with three or four hundred followers, surprised the town at daybreak. In the space of four hours, upon that occasion, 143 men were shot dead in the streets and some thirty desperately wounded, and the value of the property pillaged or sacrificed to the torch was in the neighborhood of \$2,000,000.

Lecompton.—Chicago, 509 miles; Los Angeles, 1,756 miles; San Diego, 1,839 miles; San Francisco, 2,068 miles. Altitude, 861 feet. Population, 550.

Named after Lecompte, a leader of the Pro-Slavery party. This was the ancient capital under that organization. The "Lecompton Constitution," intended for a Pro-Slavery Kansas, was signed here. The foundations of the present Lane University were originally laid for the projected capital of a slave State. Many men of the opposition party were forcibly incarcerated for their principles in the Lecompton jail, whose ruins are still visible. The old legislative hall also still exists. The interest of Lecompton is reminiscent, and attaches to the early history of Kansas, when strife was violent between the two political parties.

Topeka.—Chicago, 525 miles; Los Angeles, 1,740 miles; San Diego, 1,823 miles; San Francisco, 2,052 miles. Dining station. Junction with Chicago, Rock Island & Pacific Railway; Union Pacific Railway; Missouri Pacific Railway; and Atchison, Topeka & Santa Fe lines to Leavenworth



STATE CAPITOL, TOPEKA.

and Atchison, Kan., and St. Joseph, Mo. Altitude, 931 feet. Population, 41,886.

The capital of Kansas is an attractive city, with broad business streets and sightly residence districts profusely shaded with ornamental trees. Situated on the Kansas River, its chief industries are flour-milling, manufacturing, and labor in connection with railroad service. The general offices and shops of the Atchison, Topeka & Santa Fe Railway are located here. There are numerous flour mills, grain elevators, stock-yards and packing houses.

The capitol is imposing and possesses a magnificent ornithological collection. Topeka contains the State, City, Washburn and Bethany libraries, aggregating 100,000 volumes, the State

Insane Asylum and State Reform School, Washburn and Bethany colleges, and twenty-three public schools. It has an extensive system of electric street-car lines.

West of Topeka are extensively worked coal mines, notably those of Osage City, twenty-nine miles distant.

Emporia.—Chicago, 586 miles; Los Angeles, 1,679 miles; San Diego, 1,762 miles; San Francisco, 1,991 miles. Dining station and hotel. Junction with Atchison, Topeka & Santa Fe branch line to Southern Kansas points. Emporia Junction, a mile east, is crossing of Missouri, Kansas & Texas Railway, and junction for fast freight line of Atchison, Topeka & Santa Fe Railway from Kansas City, via Olathe, Ottawa and Quenemo. Altitude, 1,149 feet. Population, 9,414.

Placed at the joining of Cottonwood and Neosho valleys, Emporia is the center of an exceedingly rich agricultural region. The State Normal School is visible upon the main street from the train. It has about 1,200 students. There is also a Presbyterian college. Twenty miles beyond, at Strong City, is the point of departure of Atchison, Topeka & Santa Fe trains northwestward to Abilene, Salina, Minneapolis and Concordia, Kan., and Superior, Neb. Emporia enjoys the reputation of being the wealthiest city in Kansas per capita.

Florence.—Chicago, 631 miles; Los Angeles, 1,634 miles; San Diego, 1,717 miles; San Francisco, 1,946 miles. Dining station. Junction with proprietary lines southward through El Dorado, Augusta and Winfield, and westward through Marion, McPherson and Lyons to Ellinwood. Altitude, 1,277 feet. Population, 1,530.

Newton.—Chicago, 659 miles; Los Angeles, 1,606 miles; San Diego, 1,689 miles; San Francisco, 1,918 miles. Dining station and hotel. Junction St. Louis, Fort Scott & Wichita Railroad, and diverging point of Santa Fe line through Wichita, Arkansas City and Oklahoma to Galveston and other Texas cities; also for trains to St. Louis via St. Louis & San Francisco Railway. Altitude, 1,455 feet. Population 6,735. A pretty city of churches, schools and happy homes,

surrounded by productive farms. It is a division point of the railroad.

Burrton.—Chicago, 678 miles; Los Angeles, 1,587 miles; San Diego, 1,670 miles; San Francisco, 1,899 miles. Altitude, 1,465 feet.

This is largely a Mennonite farming community, about 800 of that sect being settled in the neighborhood. The Mennonites are a denomination combining some of the characteristic principles of the Baptists and the Quakers. The main distinctive doctrines consist of non-resistance, abstinence from oaths and the baptism only of adults upon profession of faith. Menno Simons, a Hollander who lived from 1496 to 1561, was the organizer, although not the founder, of the sect. It increased rapidly in Holland, Switzerland and Germany, and was the object of bitter persecutions. Many members removed to Russia, where they were promised exemption from military service. Not a few also emigrated to America, some being among the original Dutch settlers of New York. But the first Mennonite settlement in this country was at Germantown, Pa., in 1683. Afterward branch colonies were established in Tiffin, Ohio, Somerville, Ill., and Mountain Lake, Minn., and when the prairies of the West were still further opened up by the extension of railroads, they scattered even more widely, preserving their distinctive communities. In 1871 the exemption under which they had existed in Russia was revoked, and they were given until 1880 to leave the country or abandon their peculiar tenets as to bearing arms.

Most of the Mennonites in Kansas came directly from Russia, in consequence of that decree, as purchasers and settlers of lands placed on the market by the Atchison, Topeka & Santa Fe Railway Company. About 10,000 located on and near this line, between Peabody and Pawnee Rock, from Marion to Barton County. They are a thrifty and worthy people, self-maintaining in all vicissitudes.

Hutchinson.—Chicago, 693 miles; Los Angeles, 1,572 miles; San Diego, 1,655 miles; San Francisco, 1,884 miles.



KANSAS COWBOYS.

Dining station and Santa Fe hotel, Bisonte. Junction with Chicago, Rock Island & Pacific Railway; Missouri Pacific Railway; Hutchinson & Southern Railroad; and Santa Fe line through Ellinwood, Great Bend and Larned to Kinsley. Altitude, 1,541 feet. Population, 9,379.

One of the prettiest and most vigorous towns in the State; settled in 1872. Stock-yards, packing houses, flour mills, grain elevators, creameries, sugar, lard and salt works, furniture and ice manufactories, numerous wholesale mercantile houses and half a dozen banking houses are examples of its commercial activity. It has a State Reformatory, a business college and a conservatory of music.

The enormous deposits of rock salt that underlie vast regions in Kansas at a depth of several hundred feet are here laid under tribute by forcing water into the subterranean beds, afterward pumping the resultant brine to the surface and evaporating it, first in open-air tanks and then by boiling to the point of crystallization. The method of obtaining the brine is simple, though ingenious. A hole is drilled, as for an artesian well, until the deposit is struck. A small pipe is then inserted to the bottom, and over that a larger and shorter one. The water is forced downward through the space between the two, and the brine solution, whose specific gravity is much greater than that of pure water, seeks the lowest level in the flooded cavity. The upward pumping is then done through the smaller and longer tube, which reaches to the briniest depth. Six hundred men are employed in these salt works alone, and the full capacity is stated to be 5,000 barrels of pure white table salt per day.

The Arkansas River is encountered and crossed at this point. Henceforward the course of that river is closely followed (except for two cut-offs from the present crossing to Kinsley), for nearly 350 miles, namely, to La Junta, in Colorado, and many of the trains do not make this cut-off. The river rises in Tennessee Pass, in Colorado, ranges into the idyllic valley of Buena Vista, plunges through many miles

of profound gorges, and reappears to wander over 500 miles of plain before reaching Hutchinson, receiving the tribute of upward of fifty considerable streams on its way. It continues its way on through Kansas, Oklahoma, Indian Territory and Arkansas to find its outlet in the Mississippi.

The old Santa Fe Trail began at Westport (now Kansas City), followed the Kaw River to Lawrence and over the hills to Burlingame and Council Grove, the Arkansas Valley being reached at Fort Zarah (now Great Bend). The trail crept up this valley to Bent's Fort (now Las Animas), and climbed the mountains through Raton Pass. There was a short cut from Fort Dodge to Las Vegas, along the Cimarron River. Thirty years ago the Comanches and Pawnees made nearly every wearisome mile of the slow passage through Kansas dangerous for the wagon trains that wound slowly across the plains, for, except they were heavily guarded by military escort, attacks were frequent both by day and by night.

Kinsley.—Chicago, 791 miles; Los Angeles, 1,474 miles; San Diego, 1,557 miles; San Francisco, 1,786 miles. Altitude, 2,179 feet. Population, 780.

A second crossing of the Arkansas River.

Dodge City.—Chicago, 827 miles; Los Angeles, 1,438 miles; San Diego, 1,521 miles; San Francisco, 1,750 miles. Dining station. Junction with Dodge City, Montezuma & Trinidad Railway and Chicago, Rock Island & Pacific Railway. Altitude, 2,493 feet. Population, 3,324. Beyond here lies Garden City, a center of the sugar-beet industry. The factory, erected at a cost of \$750,000, has a daily capacity of 750 tons of beets. Population of 2,250.

Dodge City acquired some celebrity, not many years back, as a rendezvous for cowboys, whose particular pleasure, when nothing more exciting engaged their attention in idle hours, was to make a characteristic demonstration when the overland trains passed. And the life of the city was a wild and reckless one. But phases in the West change rapidly and all that

is now a matter of reminiscence. It possesses electric lights, water works and a flour mill and is a receiving and distributing point for the surrounding agricultural and grazing country. Here the time changes one hour.

The adoption of arbitrary standards of time grew out of the difficulties of adjusting business operations, particularly the complicated details of arranging railroad train schedules to the differences of local solar time. For the purpose of simplification four divisions are recognized in the United States, namely, Eastern, Central, Mountain and Pacific, in which respectively the solar time on the 75th, 90th, 105th and 120th degrees of west longitude is used. The difference of 15 degrees longitude between the consecutive standards is one-twenty-fourth of the earth's circumference, and the difference in time is consequently exactly one-twenty-fourth of the time consumed in its daily revolution, or one hour. Railroads commonly adhere to one of these standards, but in not a few cities both standard and local time is in use, and clocks have an additional minute-hand in order that both may be indicated. The actual working boundaries between these standards, however, far from conforming to meridian lines, are extremely irregular, as will be seen in the following:

Actual dividing points, in practice between Central and Mountain sections.—Dodge City, Hoisington, Phillipsburg and Oakley, Kan.; El Paso, Texico and Texline, Texas; Holyoke and Cheyenne Wells, Colo.; Alliance, Long Pine, North Platte and McCook, Neb.; Mandan, Minot and Portal, N. D.

Between Mountain and Pacific sections.—Deming, N. M.; Seligman, Ariz.; Hope, Idaho; Ogden, Utah; Huntington, Ore., and East Spokane, Wash.

As the earth revolves toward the east, it follows that the east is farther advanced in time than the west, and consequently a traveler journeying westward from New York or Boston will, if he does not correct his watch in transit, find it just three hours fast after crossing the eastern boundary of the Pacific Division.

COLORADO.

Part of the region now comprised in Colorado was included in the original Louisiana Territory, and the remainder was contained in New Mexico.

In making up the present State portions of New Mexico, Utah, Nebraska and Kansas were taken. The first American explorer was Lieut. Zebulon M. Pike, who came here in 1806 and gave his name to the



A VIEW OF PIKE'S PEAK FROM THE CARRIAGE ROAD.

great mountain peak whose summit he vainly attempted to reach. Maj. S. H. Long came this way in 1820 and similarly perpetuated his name in a peak a little higher than Pike's. About twenty years later Charles Bent established a fort and trading post on the Arkansas River, near the present railroad junction La Junta, and in 1844 John C. Fremont made his first explorations of this part of the country. In 1858 gold was discovered on the South Platte River, near Denver, and Pike's Peak became a landmark for thousands of fortune seekers who ventured across the plains.

The northern limit of Spanish settlement was the Arkansas River, which served as a partial boundary between Spanish and French territory in the early partition of the country.

The Ute Indians, now almost wholly banished to Utah, were the ruling aborigines, although, in the southeastern part, Apaches and other tribes roamed.

Colorado contains 103,925 square miles. The plains occupy about one-third the entire area, rising rather steeply from an altitude of 3,500 feet at the Kansas boundary to nearly 6,000 feet at the edge of the foothills. They are treeless, save along the water courses and where trees have been planted since settlement. The foothills extend north and south at an altitude of from 6,500 to 8,000 feet, and are generally covered with timber and are rich in mineral. The Rocky Mountains are an intricate, many-branched chain, but are separable into three prominent divisions, Front, Park and Saguache ranges, in which nearly 200 individual peaks rise above an altitude of 13,000 feet, and about one-fifth as many, not all of which are named, above 14,000. The highest point in Colorado is Mount Elbert (14,436 feet). Pike's (14,147 feet), Long's (14,271 feet) and Gray's (14,341 feet) are the best known peaks of the Front Range. Lincoln (14,297 feet) and Quandary (14,266 feet) are the highest peaks of the Park Range. The Saguache is perhaps the most notable range of the chain, being a rugged mass of granite about 13,000 feet high, nearly 20 miles broad and more than 75 miles long. Harvard (14,403 feet), Yale (14,204 feet), Princeton (14,202 feet), Mount Massive (14,424 feet) and Mount Ouray (14,043 feet) are a few of its prominent pinnacles. This range is the backbone of the Continental Divide and is crossed by two world-famous railroad passes, Hagerman Pass on the Colorado Midland Railroad, which reaches a height of 11,528 feet on the side of Mount Massive, and Marshall Pass on the Denver & Rio Grande Railroad, which climbs Mount Ouray to a height of 10,852 feet. The three ranges named extend from north to south and between them lie North, Middle and South Parks. The Saguache Range is prolonged southward by the Sangre de Cristo Range, which in turn is extended by the Culebra Range, and west of the last two lies the largest of the Colorado parks, San Luis, whose area is 9,400 square miles. There are many other parks of smaller size and all are beau-

tiful mountain-walled basins of great fertility, well watered and timbered.

Here the Arkansas, Platte and Grand rivers and the Rio Grande del Norte take rise, besides innumerable tributaries to these and other streams. In this titanic land the water courses are an unnavigable series of rapids and falls which, in the lapse of ages, have worn deep, imposing gorges in their beds of rock.

Colorado is the equal of any part of the United States in grandeur of scenery, save only the Grand Cañon of the Colorado River in Arizona, Yosemite Valley in California and Yellowstone Park in Wyoming. It is the most popular summer resort in the West, thousands every year turning to it from east, south and north upon the approach of the warm season. The climate is exceedingly healthful and restorative, and the air is dry, pure and cool, by reason of the great elevation of the region. It has numerous mineral springs which are beneficially used for a beverage, as at Manitou, or for bathing, as in the great pool at Glenwood Springs.

Our route lies south of the great Colorado resorts, leading across the southeastern portion of the State, over rather desolate plains, which at length give place to the beauties of mountain scenery.



THE ROYAL GORGE.

Mining in Colorado began with the discovery of gold in 1858, but it has grown to be the second silver-producing State, the principal smelters being located at Denver and Pueblo. The extent of its iron mines is very great. It has 40,000 square miles of coal fields, in which both anthracite and bituminous are included. Petroleum wells have been in operation here for sixteen years past. Variegated marbles and sandstone, granite and gypsum are largely quarried.

In spite of the large output of metals the value of the yearly agricultural and horticultural product is even greater. Alfalfa, wheat, barley, oats, corn, potatoes, apples, peaches, grapes and berries are extensively raised. Colorado fruit is of the very best quality and fruit raising in suitable localities is one of the most profitable of legitimate industries.

The winter climate is peculiarly favorable to the raising of stock and sheep.

Arkansas Valley of Colorado.—This is a region nearly two hundred miles in length, extending westward from the Kansas-Colorado state line. But few years have passed since the only inhabitants were scattered cattlemen and ranchers. Today abundant room for settlement remains, but every few miles a flourishing town or village may be seen. Irrigation is the cause of development, the Arkansas River, surcharged with soil-building and crop-fertilizing materials, being utilized. Hundreds of thousands of acres are thus profitably cultivated which formerly were either totally barren or only fit for grazing. The locality is probably best known for its melons, of which thousands of tons are annually exported. Rocky Ford is the center of the melon district, and the yearly "Watermelon Day" at this point is a unique occasion which brings a large number of Colorado people together for merry-making and feasting. The cantaloupes from this valley, known under the brand of "Rocky Ford," take highest rank throughout the country.

Orchard fruits, berries, vegetables, grain and alfalfa are produced in great quantity, and cattle, hog and sheep raising



SUGAR BEET FACTORY, ROCKY FORD, COLO.



SUGAR-BEETS AND BEEHIVES, LAMAR, COLO.

is extensively followed. A factory has been erected at Rocky Ford, at a cost of \$1,000,000, for the production of sugar from beets. Its daily capacity is 1,000 tons of beets. A colony was established four miles west of Holly in 1898, by the Salvation Army, under the name of Fort Amity. The sugar beet mills at Holly, Lamar, Las Animas, and Swink represent an aggregate cost of \$2,500,000 and have a capacity of 2,500 tons daily. These cities with La Junta, Rocky Ford, Manzanola and Fowler are the principal towns of the Valley, east of Pueblo and Cañon City.

Las Animas.—Chicago, 1,010 miles; Los Angeles, 1,255 miles; San Diego, 1,338 miles; San Francisco, 1,567 miles. A new sugar beet factory here was put up at a cost of \$750,000. Altitude, 3,871 feet. Population, 1,192.

An old Mexican town, at the confluence of the Las Animas (or Purgatory) River with the Arkansas. This tributary in its course flows through a lengthy and profound cañon, in which, according to legend, an entire company of Spanish soldiers perished in the days of the early exploration. On this account, if the legend is true, or perhaps merely exercising their poetic faculty, the Spaniards called this stream *Rio de las Animas Perdidas*, the River of Lost Souls.

La Junta.—Chicago, 1,029 miles; Los Angeles, 1,236 miles; San Diego, 1,319 miles; San Francisco, 1,548 miles. Altitude, 4,061 feet. Population, 2,513. Dining station and hotel.

It is a diverging point of the Santa Fe to Pueblo, Cañon City, Colorado Springs and Denver, and through Colorado Springs to the principal Colorado resorts, and via Salt Lake City and Ogden to San Francisco.

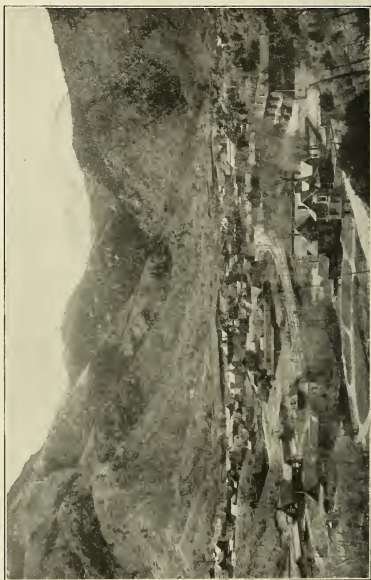
A short distance west from La Junta, on the north side of the Arkansas, is the site of Bent's Fort, which was established in the "forties." Of this memento of the old wild life of the frontier, James W. Steele writes as follows:

"The occupants of Bent's Fort were hunters by predilection. They loved the wilderness and never returned to civil-

ization. They were fur hunters and Indian traders, and Indian fighters at the same time. They kept no records; they did not care. The American history they were making never got into any books. They were intolerant and savage-tempered men, desperadoes on a pinch, every one. Their ranks were recruited by fugitives from justice. Life was held very cheap. At Bent's Fort a sod wall, thick and high, inclosed about an acre. There never was a more terrible acre of ground. It was full of the most reckless men ever gathered in one spot. The man Bent was the recognized head of them and was afterward the first American governor of New Mexico. The commercial idea was probably predominant, for everything was kept for sale there. The place was in the midst of a great buffalo range, and around it Apache, Cheyenne, Comanche and Pawnee gathered and hunted and fought. They used, when lacking a quarrel among themselves, to attack the fort. They charged the wall on horseback. They never captured it, but if one should visit those ruins now he might be sure that he was standing upon ground that had been repeatedly soaked with human blood."

The following graphic picture of that early time is from the pen of Mr. Frank Wilkeson:

"As emigration increased on the Arkansas trail, Bent's Fort became an important place. United States troops marching to the Southeastern Territories camped there, and frequently secured guides from the post. Thousands of dollars' worth of goods were sold annually. Enterprising young men bought goods at Bent's and loaded them onto their pack animals. Then they rode north, south, west, in search of Indian camps, which they entered and there traded with savage customers. The peddlers of the plains traded only for the more valuable furs. They penetrated into the remote recesses of the Rocky Mountains. They crossed that mighty snow-capped range and drummed up trade in then unnamed valleys where unknown Indians lived. These men acquired trading routes along certain trails and jealously defended



MANITOU, COLO.

them against all intruders. They recklessly entered all the Indian villages they discovered. In time, if they were not shot or burned, they became widely known among the Indians, and were welcomed and trusted. They supplied the warriors with powder and lead and percussion caps. They also dealt in traps, bright-colored cloth, beads, knives, axes, fishhooks, buttons and brass wire. Many of these traders married Indian women and from these unions sprang the half-breeds—dangerous men in whom the courage of their fathers was supplemented by the crafty treachery of their mothers. Some of the white traders, especially in the Rocky Mountain region, adopted the dress and habits of the Indians, and frequently became men of consequence in the tribes.

"Other men, lured from the bloody frontier by hope of profitable barter or love of adventure, or who sincerely desired to put a greater distance between themselves and pursuing sheriffs, loaded wagons with goods and drove westward to the buffalo range, expecting to meet wandering tribes of Indians. They were careless whether they met Sioux, Cheyennes, Crows or Blackfeet. These men generally traveled in groups of three or four, each driving a team of horses, behind which rolled a heavily loaded wagon. To-day they traded with Sioux; to-morrow they met Comanche braves; the next day painted and blanketed Cheyenne warriors crowded around their wagons and exchanged furs for powder, balls, blankets and hardware. Or, to-day they fought, and to-morrow their corpses lay blackening in the sun, and glossy ravens perched on their scalplless heads and plucked their eyes, and foul buzzards stalked around them and prairie wolves tore them to pieces. Their goods were scattered throughout the villages and their scalps, suspended from sticks thrust in the ground at the entrance of lodges, waved in the wind, and little Indian children spat on them as they played."

THE COLORADO RESORTS.—Many California tourists whose plan does not include a return by way of Ogden and central

Colorado, make, either going or returning, a side excursion from La Junta to the famous resorts of Colorado. For the benefit of such the following brief account of the most noted is included:

Pueblo.—64 miles west from La Junta. Chicago, 1,093 miles. Altitude, 4,656 feet. Population, 28,157.

Placed in the midst of a large tract of country particularly favorable for the culture of fruits, vegetables and cereals, and adjoins a rich mineral-bearing region. Its site was formerly a Mexican village. In the early days it was known as The Pueblo, and frequent reference to it under that name may be found in the early romantic annals. It is a metropolitan city. Its industries include Bessemer steel works; ore-stamping, smelting and refining works; foundries, car and machine shops, and flour mills. Its climate, like that of all the Colorado resorts, is mild in winter and very agreeable and healthful in summer.

A famous attraction at Pueblo is the Mineral Palace, which is filled with rich mineral specimens, and is open to visitors every day in the year.

Colorado Springs.—43 miles north of Pueblo. Chicago, 1,136 miles. Altitude, 6,000 feet. Population, 21,085.

The name is fanciful. It is a town without a spring, but pure, cold mountain water is supplied in abundance. It stands on the plain closely bordered by the Rockies, Pike's Peak very near at hand and conspicuously towering above the neighboring summits.

Four or five miles distant, and easily reached by a charming ride on the electric cars, is Cheyenne Cañon, the location of Seven Falls, and formerly of Helen Hunt Jackson's grave. The authoress particularly loved this locality, and had a log-cabin home above the head of the falls, which still stands and attracts many of her admirers.

A visit to Cheyenne Cañon is a good preliminary to the more stupendous mountain scenery of Colorado. Carriages or burros are procurable at the end of the electric-car ter-

minus, or the trip can be easily made afoot, as the distance is not great. Seven Falls is a name applied to a brilliant waterfall that tumbles through a rock gorge in a series of seven leaps, by the side of which a long stairway extends to the very top, where is an upper valley or basin of great beauty, surrounded by timbered mountain slopes. Every day in summer the entire cañon is dotted with excursionists, driving, riding or walking to the foot of the falls, climbing the stairway to wander still farther into the woodland, or urging slow but sure-footed burros along the intricate trail that leads by a roundabout way past the falls. There are



SEVEN FALLS—SOUTH CHEYENNE CAÑON.

huge isolated cliffs, domes and pillars of rock warm with color; and the contrasting tones of evergreen and deciduous trees, and bright hues of wild flowers, and the diversity of landscape, which includes level stretches of shaded wood-road, smooth, fir-clad slopes, tremendous heights and gorges, a clattering mountain stream and roaring cascades, combine to make this a well-loved spot and one often returned to.

There are good hotels at Colorado Springs, and many at-

tractive boarding places, and there are more summer homes of people who are nominally residents of the North, East and South, than anywhere else in Colorado. There are no factories and no other noisy or disagreeable business activities to detract from the quiet charm of the place.

It is connected with Manitou by electric and steam railroads.

Manitou.—Six miles west of Colorado Springs. Chicago, 1,142 miles. Altitude, 6,442 feet. Population, 1,439.

A Ute Indian name, signifying Great Spirit. Manitou lies at the bottom of Ute Pass, at the point where the profound



HALF WAY UP PIKE'S PEAK.

mountain notch opens out into the plain. It is at the very foot of Pike's Peak, and the scenic environment is surpassingly beautiful. A broad avenue, eighty feet in width, runs through the village, and on either side are ranged villas, cottages and a

large number of hotels. The Soda Springs are in the heart of the settlement, in the center of a pretty little park. The Iron Springs are situated a few minutes' walk distant. Aside from the natural loveliness and exhilarating air of this resort, there are very many objects of special interest, a few of which will be enumerated:

PIKE'S PEAK.—There are two popular methods of ascending the Peak, one by way of the Cog-wheel Railroad, over which trains are regularly run in summer from Manitou, the other by carriage or on horseback from Cascade, half a dozen miles beyond Manitou. The railroad station of the Manitou & Pike's Peak Railway is in Engelman's Glen, near the Iron

Springs. The railway itself is nearly nine miles in length, and reaches the topmost pinnacle, stopping at the side of the old Signal Service Station, which has been made over into an inn. The Peak is 14,147 feet above sea level, and is 7,525 feet above the starting point in Manitou.

Shady Springs, Gog and Magog, Grand Pass, Echo Falls and Echo Rocks, Hanging Rock, Artists' Glen, Sheltered Falls, Minnehaha Falls, Devil's Slide, Pinnacle Rocks and Grand View Rock are some of the features by the way below the Halfway House; beyond are Hell Gate, Ruxton Park, Sheep Rock, Lion's Gulch, and a particularly steep incline, and then comes the timber line, 11,625 feet above the sea. The rest of the peak is wind-swept ledge, boulder and gravel. Windy Point and the Saddle follow, from which last-named point a noble view of Manitou is had. A further ride of nearly a mile and a half brings one to the summit.

Although there are many mountains in Colorado a little higher than Pike's Peak, this is high enough for most travelers, and those with a weak heart or feeble lungs will do well not to attempt the ascent, for the rarefaction of the air at such an altitude is very pronounced, and the most able-bodied person, unless he is accustomed to mountain-heights, will find himself short of breath and disinclined to attempt any violent exertion. The view, as is the case with all lofty peaks, is sometimes obscured by clouds, haze, or flurries of snow or rain; but the trip will invariably repay the genuine lover of mountains. The round trip, including stop on the summit, consumes four and one-half hours.

The carriage road, from Cascade, is double the length of the



COG ROAD UP PIKE'S PEAK.

railway, namely, about eighteen miles, and the fatigues of the ascent by carriage or on horseback are naturally greater, but for those who do not count such a cost too closely, the carriage road offers much more of enjoyment than the brief railroad trip permits.

GARDEN OF THE GODS.—This is a park of several hundred acres, through which are scattered myriad upright forms of

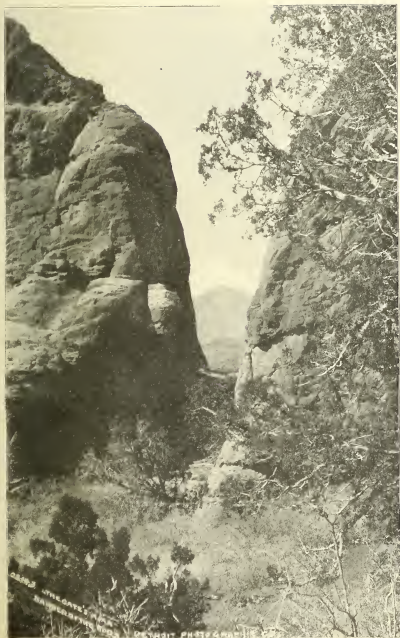


SIGNAL STATION, PIKE'S PEAK

rock, indiscriminately grand or grotesque, as if they had been sculptured by Nature in her most whimsical moods, shifting incessantly from austere to frivolous. Many are clear caricatures, irresistibly suggesting an object travestied.

The Eastern Gateway is a splendid natural portal, two august isolated masses of red sandstone towering on either side of a narrow but sufficient driveway to a height of 330 feet. Balanced Rock stands toward the western extremity of the Garden, a ponderous bowlder resting upon a pivotal base. The levity of the character of the smaller figures may be inferred from such names as Punch, Judy and the Baby, Kissing Camels, Irish Washerwoman, Ant-eater, Hedgehog, Toad, Turtle, Flying Dutchman and Grandfather's Hat; and there are scores of like sort.

GLEN EYRIE.—This is a private estate, the property of General Palmer, but except on the first day of the week it is open



GATES AJAR, GARDEN OF THE GODS

to visitors. It is nearly three times as large as the Garden of the Gods, and contains Queen Cañon, which is seven miles long. Neighboring the garden, it has much the same character, and its attractiveness is enhanced by landscape gardening, which is maintained at great cost to the owner.

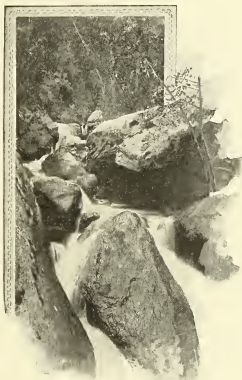
GRAND CAVERNS AND CAVE OF THE WINDS.—One and a half miles from the center of the village, separated on the surface by a high ridge, and not feasibly connected in the interior, although it is supposed that intercommunicating passages exist. The way to Grand Caverns is along Ute Pass, by the Fountain que Bouille and past Rainbow Falls, to a lofty eminence that overlooks the entire basin. The Cave of the Winds is reached by way of Williams Cañon, a narrow gorge with magnificent rock walls. To these, as to the other attractions, there are admirable carriage roads.

The two cave-groups named are similar in character, although the "rooms" in the first named are the larger. The ceilings are high, in some instances fifty or sixty feet, except in the narrow corridors between the principal compartments, although through those one may walk erect; and the floors are smooth and quite dry. The ceilings and walls are hung with remarkable stalactites and innumerable stalagmite forms. Some of the compartments are good-sized amphitheatres, with natural galleries, and each one has its name, appropriately descriptive or suggested by fancied adaptability to the uses of man. There is in Grand Caverns a natural xylophone of stalactites, called by the guides "The Grand Organ," upon



CAVE OF THE WINDS, MANITOU.

which simple melodies are played with a fullness of tone and approximate correctness of pitch that are surprising. Heard in that gloomy underworld, which lanterns and magnesium lights illuminate only enough to half disclose the brilliancy of natural adornment against a background of midnight shadows, some of the deep notes struck upon those ponderous stalactites will linger long in memory. The route over which the visitor to Grand Caverns and the Cave of the Winds is conducted by the guide is in each case about three-quarters of a mile long, and an hour is easily consumed in the most cursory examination of these really wonderful grottoes.



SYLVAN CASCADE, IN CASCADE CAÑON.

Cascade Canon.—Altitude, 7,241 feet, 6 miles west of Manitou; Ute Park, 7,511 feet, 8 miles; Green Mountain Falls, 7,734 feet, 9 miles; Woodland Park, 8,484 feet, 14 miles; and Manitou Park, 8,500 feet, 20 miles west of Manitou, complete the series of resorts on the Ute Pass. In the Colorado tourist season, which covers the period from June to September, inclusive, these localities are thronged with visitors. There are very many first-class hotels, and tents and cottages are also plentifully availed of.

Cripple Creek.—The history of this world-famous mining district is a true romance, from the time of the first gold discovery in 1891 in Poverty Gulch down to the present, when populous cities lie among



the hills and valleys, over which so little time ago only the lonely herdsman had domain. Its development and growth were so rapid that when in April, 1896, the city of Cripple Creek was devastated by fire, a population of 15,000 sustained a property loss of \$2,000,000. It was promptly rebuilt. As a gold camp the region is something of a freak, the rock formation being of a character which geologists and practical miners long refused to put any faith in as a depository of pre-

cious metal. Nevertheless, from an output of \$200,000 in its first year it has climbed to an annual production of \$20,000,000, and shows no sign of abate-

GREEN MOUNTAIN FALLS.

ment. On the contrary, it is a characteristic of the

locality that the metalliferous veins grow wider and richer as they are followed deep downward.

Pike's Peak was the landmark that guided gold-seekers who crossed the plains a generation ago. Near its base the first gold discovery in Colorado was made. It is quite in keeping with the whimsical history of great mining discoveries that

Cripple Creek should be situated on a flank of the well-known and much-visited Peak itself.

Denver.—Seventy-three miles north of Colorado Springs. Chicago, 1,209 miles. Altitude, 5,190 feet. Population, 133,859.

Named after ex-Gov. James W. Denver of Kansas. This magnificent queen city of the plains has been created in a very short space, for in 1858 gold was first washed out from the



SPANISH PEAKS.

sands of the South Platte by Caucasians, and from a mining-camp that arose after the gold discovery Denver has developed. Mining was the first impulse, and that and the treatment of ores has steadily contributed to the growth of the city to this day, three of the largest and most complete smelting and refining works in the world being established here, their yearly output amounting to nearly twenty-five millions of dollars in value. But Denver is also surrounded by a vast area of rich, arable lands, which produce wheat, oats, barley and other grains, and roots and vegetables. It has acquired immense cattle and sheep interests, and furnishes a market for the apples, pears, peaches, plums, grapes and smaller fruits and berries which are grown in the Colorado valleys.

It is an important junction point for many centering railroads, has large manufacturing interests, and is regarded as the trade-center for 400,000 people. Its residences, business blocks and public buildings afford numerous examples of architectural beauty; the streets are broad, generally level, and frequently shaded, and there is an almost perfect system of electric and cable street railroads. And behind all this lie the attractions of superb climate and scenery.

We return to our point of digression at La Junta.

In this vicinity Pike's Peak is visible for some time upon the northwest, at a distance of about ninety miles, and the beautiful Spanish Peaks twin-mountains at the end of a spur of the Culebra Range, northwest from Trinidad, soon come into view, alternately disappearing and recurring until the summit of Raton Pass has been reached.

Trinidad.—Chicago, 1,111 miles; Los Angeles, 1,154 miles; San Diego, 1,237 miles; San Francisco, 1,466 miles. Dining station and hotel, Cardenas. Altitude, 5,982 feet. Population, 5,349. Junction with Union Pacific Railway and Denver & Rio Grande Railroad.

The mining of coal and the manufacture of coke, iron, lumber, mineral paint, lime, plaster of paris and fire-brick are the principal industries of Trinidad, although flour and beer are also produced, and it is the largest wool and hide shipping point in Colorado. St. Raphael's Hospital, St. Joseph Academy, and the Tillotson University are located here.

The city is beautifully environed by mountain scenery. The conspicuous flat-top peak on the range beyond is known as Fisher's Peak. On the right a ruddy cliff rises to a height of a few hundred feet. Upon its top a party of pioneers was besieged by Indians in the early days, and one of the survivors, named Simpson, chose to be buried there many years after, when his time came to die. A rude monument surmounts Simpson's Rest, which may be seen from the station.

The tunnel at the summit of Raton Pass is fifteen miles beyond Trinidad, at an altitude more than sixteen hundred



PIKE'S PEAK, FROM COLORADO SPRINGS.



THE GEORGETOWN LOOP.

feet greater. The difficulties of the ascent of the pass appear in the last few miles, but here the approach may be said to begin.

Raton Pass.—Altitude (at the tunnel), 7,622 feet.

There are four stations along the ascent beyond Trinidad, at intervals of five miles. Starkville is a coal-mining and coke-manufacturing point, and the remaining three, Morley, Wooten and Keota are commercially unimportant settlements.

• The entire ascent affords a series of exhilarating views, best enjoyed from the rear platform of the train. The track follows the old Santa Fé trail, which is one of the most ancient of recognizable human pathways to be found on the continent. Wooten was named for an old-timer, "Uncle Dick" Wooten, whose partially burnt and wholly abandoned house on the right of the track is a relic of the days of the six-horse Concord stage-coach, caravans of emigrants, and long wagon trains loaded with valuable goods and escorted by mounted soldiers to repel the attacks of Indians. Wooten kept the trail over the pass in repair, and collected toll from those who used it. But it was a frequented road centuries before Wooten was born, before the Spanish invasion, and doubtless before the discovery of America: for the practical passes of the Rockies are comparatively few in number, and one at all aware of the great antiquity of human life in the Southwest will vainly grope backward for a time in the past when this must not have been a thoroughfare for aboriginal peoples.

The scenery is not of the tremendous type, but frequently wide in scope and full of incident. The road is tortuous, and the pace slow, two heavy locomotives being required to haul the train with a pusher at the rear. The last broad view, before entering the final cut, is a farewell glimpse of the Spanish Peaks, seen directly over the Wooten house, rising from the far horizon of the plains below.

When the railroad was first built, it climbed over the top of the mountain, by means of a many-angled "switchback" which began near this point. The Raton Tunnel is 2,011 feet in length, and lies in New Mexico. A boundary post will be

noticed some fifty feet short of the entrance. A second tunnel, near the first one, recently built, enables the traffic to be handled with greater ease.

From the other end of the tunnel the descent of the pass is a comparatively short matter, and Raton is quickly reached.

NEW MEXICO.

The oldest existing civilization in the United States is here. Whether or not Cabeza de Vaca passed this way in 1536, after being wrecked with the Narvaez expedition on the Florida reefs, it is certain that Marcos de Niza saw this country three years later, and that, in 1540, Coronado came with his soldiers for conquest. This same Coronado was a tireless explorer himself, shirking none of the hardships of such enterprise, but intrusting numerous side expeditions to the command of chosen subordinates. He and his proxies discovered nearly everything except that which they sought, which was gold. They tramped north and east as far as the Missouri River, they pushed to the northwest until they were stopped by the Grand Cañon of Arizona, and they braved the terrors of the desert on the west until they came to the shores of the Colorado River on the border of Southern California. They hoped to find what Cortez had found among the Aztecs, some hundreds of leagues to the south—precious metal wrought into ornamental shapes, all ready for the hand of the conqueror; but in all the native villages of New Mexico no fragment of gold has ever been found. Here, at least, the aborigine seems to have regarded it with disdain, provided he had ever regarded it at all. They did find, as Cortez had found, a resident people of temperate, frugal and industrious habit, civilized in a way. These were the Pueblos, an Indian people who tilled the soil and dwelt in great houses made of stones and sun-dried mud, several stories in height, and in some instances containing a thousand compartments. The Spanish word *pueblo* means a village or a people, and these natives, as well as their curious habitations, have ever since been generally known by

the name casually applied by their discoverers, although among themselves they are known by their Indian tribal names.

How long the Pueblos had dwelt in New Mexico prior to Spanish occupation is as much a matter of mystery to us as it was to Coronado, three and a half centuries ago. Their origin has baffled research. History appears to disown them. They



A PUEBLO.

are essentially unlike the roving Indians of the plains, and it is disputed whether they are Aztecs. They are said to possess a tradition of having come from the north, fighting inch by inch against the southward invasion of a fierce foe, until at last they came to these plateaus and built permanent fortress homes. This tradition, if authentic, may offer explanation of the mysterious cliff dwellings which, like swallows' nests, mark the faces of cañon walls for hundreds of miles in southern Utah and Colorado and northern Arizona and New Mexico. In any event, when the Spaniards came the Pueblos had local ruins which themselves were the subject of traditions centuries old.

The soldier and the priest marched side by side in the old days of Spanish conquest, and simultaneously with the occupation of New Mexico mission churches of the Jesuit and San Franciscan orders arose. Colonists from Mexico followed in the wake of the soldiery, and the first white settlement was

made at San Gabriel, on the Chama River, in 1598. Seven years later the present city of Santa Fé was founded. Upon its site a native capital is reputed to have been already in existence, and the visitor to Santa Fé is shown the house where Coronado is believed to have lodged in 1540. The Pueblos at first welcomed the Spaniards in the effusive manner of world-ignorant aborigines, but they ultimately grew discontented with Castilian oppression, and after a few small outbreaks united under the leadership of Po-Pe, in 1680, and drove every Spaniard whom they did not kill out of the Territory, burning and sacking the missions and destroying every reminder of the white men. After a struggle of twelve years to regain the lost province, the Spaniards reconquered under leadership of General Diego de Vargas. The colonization of New Mexico was then once more begun, and its development continued slowly without serious interruption.

Early in our century Santa Fé became commercially significant, and was connected by wagon route with the Missouri River, and also with Los Angeles, in California. In 1837, after Mexico had become independent of Spain, this Territory revolted against unjust methods of government and taxation, but failed to achieve independence. It was occupied in 1847 by General Kearney and the Army of the West, for the United States, to which that portion west of the Rio Grande was ceded a year later. The eastern portion came by the Texas cession of 1850. Congress subsequently, at different times, rearranged its bounds and extent, which formerly embraced Arizona and a portion of Nevada and Colorado.

Several engagements between Federal and Confederate forces, during the Civil War, took place within the Territory, and up to a comparatively recent date the soldiers of the frontier army were kept busy pursuing Apaches with varying success.

The area of New Mexico—122,444 square miles—is larger than that of Great Britain and Ireland. It is composed of vast upland plains of exceeding fertility, where rainfall is sufficient

or irrigation is practiced, broken by innumerable alluvial valleys, and of mesas, foothills, spurs, and, finally, the lofty ranges of the Rocky Mountain chain, many of whose peaks attain an altitude of more than 12,000 feet. The Raton Range, trending eastward, is crossed by the pass. The Sangre de Cristo, Taos and Costillo ranges lie contiguous or adjacent to our route.



THE PLAZA, SANTA FÉ.

The Oscuro, San Andreas and Organ mountains are farther to the south. The mean altitude of the entire Territory is nearly 6,000 feet above sea level, and that of the northern plains themselves is fully as great, the lower elevations of New Mexico lying upon the south.

From the bottom of the pass the route makes southwestwardly toward the middle of the Territory, at Watrous entering the fair green expanse, sixty-odd miles square, to which the Spaniards gave the name *Las Vegas*, *The Meadows*, near whose side, midway, stands the old city of the same name.

Then come occasional Mexican villages scattered by the way, quaint communities of adobe huts, the white cross of the

humble sanctuary infallibly discernible. These give a novel



A MEXICAN INTERIOR.

interest to the ride, as fragments of the purely picturesque. There is something oriental about every Mexican house. It is either built around a square or is a modification of that architectural plan.

It is always of adobe—rude bricks of clay

mixed with chopped straw and dried in the sun. The floor is of earth, and the roof as well. If for want of repair the hut wears the appearance of a hovel, the fault is not of the structure. It is the house of the country, and, as a rule, is extremely tidy. Adobe is really the best material for walls in a climate like this. It resists heat in summer and cold in winter. The Mexicans are courteous, kindly, hospitable and intelligent for their circumstances. Some of their strain represent the most active and prosperous residents of New Mexico, but not such as you see in these wayside villages. These are the reverse of enterprising, and stubbornly cling to the old life of the Spanish peasant, as poor, as happy and as quaint, here and now, as ever it was at home.

After these comes another mountain pass, that of the Glorieta, a lovely ride through park slopes to a commanding height, then a downward whirl on the brink of alluring gorges that are green with pine and fir and rosy with color of rock and earth. Glorieta Pass is on the westward sweep of the railroad from a little beyond Las Vegas to the banks of the Rio Grande del Norte, below Santa Fé. Reaching the Great River of the North, its course is followed for many miles. This is a Nile valley, every year inundated by the mighty stream that is swollen by melting of mountain snows all the way back to its source in Colorado. When the flood comes in spring nothing

less stubborn than anchored rock can stand in its path. The sand-laden volume gnaws and undermines and rolls huge boulders away like balls in its rush. The earth, too, is of a character easy to wash, a finely pulverized adobe. Among the notches of the hills waterspouts and the shed of heavy rains cut deep *arroyos* into the seemingly bottomless soil. One may observe many places where heavy rocks are heaped in between rows of sturdy piles, the only adequate protection against this formidable excavating force.

Immediately upon passing Albuquerque, having crossed the Rio Grande, a type of country is encountered different from any previously seen. The land of desert and volcano is fairly entered. It should not prove dreary, nor even monotonous, for in addition to its unaccustomed natural and human interest it is full of vivid color. Black and white illustrations do not convey the whole charm of the western country. The sky of

Italy is not more intense than this marvelous flaming arch of blue. Sand and rock are warm with tints of red and brown or cinder black. Mesa and mountain on the horizon wear the hue of indigo in shadow. The after-shine of a sunset is yellow fire. There is no "atmosphere."

One can not



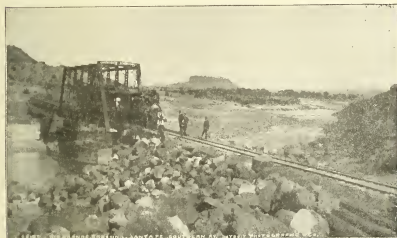
A MESA CLIFFSIDE.

judge, with even approximate correctness, the distance of a fairly remote object. Two miles or ten miles distant are the same to the eye, as if the laws of optics had been unaccountably modified to increase the powers of vision.

The most famous of the inhabited pueblos of New Mexico

lie adjacent to the road through this region, two of them, Isleta and Laguna, close beside the track. Acoma and Zuñi are to one side. All are easily accessible to the tourist, and will richly compensate the time required for visiting them.

Ancient rivers of lava here parallel the way for long dis-



CROSSING RIO GRANDE RIVER.

tances. The flow oozed from fissures in the plain, as well as from the towering craters whose slopes sweep upward to ragged rims against the sky.

Shortly before reaching the Arizona line the Continental Divide is crossed, and the rivers begin to flow toward the west and the sunset sea.

It is no exaggeration to say that here the sun shines nearly every day. There is a fairly well-defined rainy season, extending from the middle of June to the middle of September, but the showery afternoons of that period are usually preceded by bright mornings, and during the remainder of the year the sky is unspotted by a cloud for weeks at a time. It is not a land of distressful heat in summer, as one might infer. It has a summer climate whose equability of comfort has no superior in the Union.

By virtue of the climatic conditions thus briefly noted, New Mexico has won wide recognition in recent years as a sanatorium for sufferers from catarrhal and pulmonary affections. It is the center of a region of similar character which extends northward into western Kansas and central Colorado, westward through upper Arizona, and southward into Mexico, with many gradations of adaptability to different stages and com-



PUEBLO OF LAGUNA.

plications of disease. Numerous sanatoriums have been established in the Territory at different altitudes, and in environments especially suited to the requirements of particular classes of consumptive patients, who are scattered all the way from Colorado to Mexico. It appears to be an indubitable fact that in climate lies the only hope of the consumptive, and that here, provided he does not too long delay his coming, the progress of the fell disease may be effectually arrested, and in many cases the disease itself practically cured.

Old as it is in the historical sense, New Mexico is very youthful so far as concerns development of its resources. In



CORN CARRIER.

spite of its inadequate rainfall, the agricultural possibilities of its plains are very great, and the valley of the Rio Grande alone should in time become one of the most fruitful valleys in the world. The primary difficulty has been the necessity of irrigation.

Enough water runs to

waste in the season of flooded streams to water the whole Territory many times over, but capital is required to utilize it except in a small way. All the vegetables, grains and fruits of the north temperate zone, omitting only the citrous varieties (oranges, lemons, and the like), and such as are peculiar to regions that neighbor the tropics, are grown in perfection. Insect and parasitic pests are said to be unknown.

New Mexico is rich in gold, silver, copper, iron, lead, zinc, anthracite and bituminous coal, and in garnets, agates, amethysts and turquoise. The enormous areas of pine and cedar timber in the mountains lie almost untouched. Vast numbers of horned cattle, sheep, goats, horses and mules are owned in the Territory.

Old as is the practice of irrigation, and common as it is throughout the West, a few words under that head will not come amiss to the average traveler to whom arid regions are new.

The idea is apparently as old as history. At least it was known to the ancient Egyptians, to whom it may have been suggested naturally by the beneficent periodical inundations of the Nile, as doubtless to other nations in a like manner, for where prior to such inundation it was impossible to profitably

till the parched earth, abundant crops followed the overflow. It was practiced by the prehistoric peoples of New Mexico and Arizona, as evidenced by existing ruins of irrigating systems, and the Spaniards knew of it and applied their knowledge generally in colonizing America.

In the simplest form it consists in flooding the entire surface of the ground with water at frequent intervals, thus artificially



PUEBLO OF TEWA (HANO).

making substitution for rain. But the common method of irrigating crops is to let the water into collateral trenches, which are dug sufficiently near together to permit the flowing water to "seep" through the intervening space of earth. In orchards a shallow serpentine furrow, winding along a row of trees, passing one upon the right and another upon the left, is a sufficient conduit. An irrigating ditch is termed in Spanish an *acequia*, and the main ditch, by which the entire volume is conveyed from point to point for distribution, is the *acequia madre*, or parent ditch. In some localities the volume is transmitted through enormous flumes, supported on trestle work to con-

quer topographical difficulties. Again it is sometimes conveyed through pipes, along the upper side of a tract with cocks at frequent intervals, and the farmer turns the cock and directs the rivulet as he may choose, with a few strokes of spade or hoe.

The turbid waters of most western streams do more than moisten; their burden of sediment is a distinct fertilizer, like that of the Nile flood. Sandy and apparently worthless tracts are thus converted into prolific gardens.

Irrigation makes agriculture an almost exact science, stripped of the hazard of drought or flood, from which the eastern farmer is never secure until his harvest is garnered.

Raton.—Chicago, 1,134 miles; Los Angeles, 1,131 miles; San Diego, 1,214 miles; San Francisco, 1,443 miles. Dining station. Altitude, 6,637 feet. Population, 6,758.

This town, almost exactly midway between Chicago and Los Angeles, is an important center of the cattle industry, and is located on the line of inexhaustible coal deposits that extend unbroken through this region for 250 miles. Blossburg, a thriving coal-mining town, lies only a short distance west, a branch railroad connecting it with Dillon, three miles below. Raton is the site of extensive railroad machine shops. Two new lines of railway cross the Santa Fe at this point and another at French, 30 miles farther on. The headquarters of the Maxwell Land Grant Company are at Raton.

What is seen of northernmost New Mexico belongs to this great land grant. For sixty miles our route runs through it, namely, from Starkville on the Colorado side of the Raton Pass, to Springer. Before New Mexico was ceded to the United States two agents of the American Fur Company, Carlos Beaubien and Guadalupe Miranda, obtained the grant, consisting of 1,714,765 acres. Precisely what equivalent was rendered does not appear, but the old Spanish rulers had a large-handed way of dealing out parcels of the earth to their favorites, and certainly the land was worth comparatively little at the time. Lucien B. Maxwell, a companion guide with Kit Carson on Fremont's expeditions, married the daughter

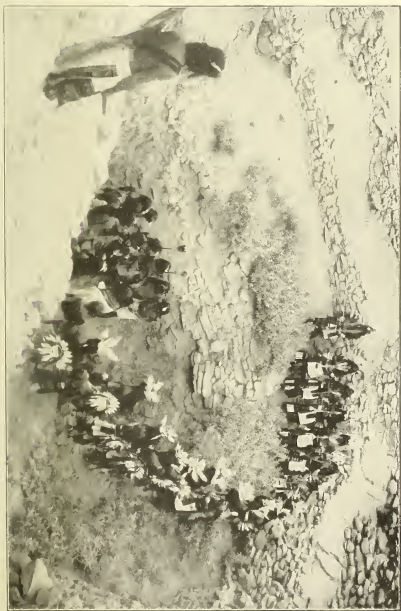
of Beaubien, and ultimately acquired the entire property by inheritance and by purchase, thus becoming the largest individual land-owner in the United States. The Spanish title to the grant was subsequently confirmed by this Government and patent issued. The ownership afterward took the form of a corporation, of which Dutch capitalists now have control. It is a little empire in itself, its principal settlements and activities being some distance removed from the railroad upon the west. Within its limits there are Mexican villages and prosperous farms owned by Dutch and English ranchmen. It embraces mines of coal, the surface croppings providing the Mexicans with an easily collected fuel, and of gold, silver and iron, gold placer fields, deposits of fire-clay and cement, quarries of building-stone, and forests of timber. It has a telephone system of 120 miles. There are single ranches of twenty or thirty thousand acres each, and many modest farms of small acreage occupied by settlers. Its agricultural products may be taken as typical of northern New Mexico. Corn is the poorest average crop among the grains. Wheat, oats, and barley yield very heavily, and the kernels are of extraordinary weight; 35, 45, and 60 bushels per acre respectively are the average crops of these grains; 400 bushels of potatoes are raised to the acre; onions weighing 4 pounds, and cabbages 45 pounds, are common. Thousands of barrels of the best quality of apples, and large quantities of cherries, plums, peaches, pears, strawberries, currants, gooseberries, raspberries, and blackberries are regularly shipped. Alfalfa is the principal hay crop. The



NEW MEXICAN FRUITS.

grazing lands sustain innumerable sheep and vast herds of cattle. Irrigation is practiced, the water being taken chiefly from the head of the Cimarron and Vermejo rivers.

Among the foothills and their cañons are cinnamon and sil-



MONT. ANTELOPE DANCE.

ver-tip bear and mountain lions, and clear streams thronged with trout; and in the broad and beautiful parks on the mesas above are Virginia and black-tail deer, grouse, and wild turkeys. The ranchmen and their Mexican employ  s are usually enthusiastic hunters, and are particularly fond of riding to hounds on the hot trail of the bear.

Maxwell City. — Chicago, 1,160 miles; Los Angeles, 1,105 miles; San Diego, 1,188 miles; San Francisco, 1,417 miles. Altitude 5,900 feet.

Created for the convenience of the business of the Maxwell Grant. The intersecting water course is the Vermejo.

The old Mexican town of Cimarron, on the Cimarron River, lies at a distance of twenty miles on the west, this side the mountains, which are farther distant than they appear to the eye. Formerly Cimarron was a rendezvous of cowboys and fugitive desperadoes, and the scene of numerous deeds of violence. One of its conspicuous landmarks is the burial-ground of men who died with their boots on, some in personal altercation, some by murder, some by verdict of outraged citizens acting on behalf of law and order. But that epoch has forever gone by for all the southwest. The railroad was a species of Augean broom, sweeping ever along in its westward advance the most turbulent of lawless spirits, who found upon the border a greater toleration of their unrestraint than elsewhere. Their era was short. What has become of them as a class it would be hard to say. Such burial-grounds as that above mentioned account for some few; the rest have disappeared.

Springer. — Chicago, 1,174 miles; Los Angeles, 1,091 miles; San Diego, 1,174 miles; San Francisco, 1,403 miles. Altitude, 5,783 feet. Population, 350.

Another Maxwell Grant town, exactly midway between Chicago and San Diego. A large irrigating system, with many miles of ditch in operation, exists upon the east, of which glimpses may be seen after leaving the station. The stream crossed is the Cimarron, which joins the Canadian and flows



INDIAN RACES, TAOS, NEW MEXICO.

eastward across Texas, Oklahoma, and the Indian Territory to join the Arkansas.

The pueblo of Taos lies about fifty miles west. It is more conveniently reached from the farther side, and a visit to Taos is customarily made northward from Santa Fé, by way of the Santa Fe Southern Railway.

Wagon Mound.—Altitude, 6,193 feet.

Formerly the seat of a Mexican frontier custom house, and its queer-shaped mountain, which may be seen from the train, was a landmark visible for many miles to travelers over the wearying and perilous old Santa Fé trail. It is a small village of about 500 inhabitants.

Watrous.—Altitude, 6,413 feet.

Here begin the broad mountain-hemmed meadows to which the name Las Vegas is due. Fort Union, an abandoned frontier military post, lies upon the right a few miles away.

Las Vegas.—Chicago, 1,244 miles; Los Angeles, 1,021 miles; San Diego, 1,104 miles; San Francisco, 1,333 miles.



THE LAS VEGAS PLAZA.

Dining station and hotel, Castañeda. Junction with branch line to Las Vegas Hot Springs. Altitude, 6,399 feet. Population, 3,552.

The second city of New Mexico in population and commercial importance.

It is one of the largest wool-shipping points in the United States, and its mercantile houses handle a general business of large volume for an immense tributary and dependent country. It is a railroad division point, and a large number of men are employed in repair shops, freight yards, and tie-treating works. Wool-washing works, a brewery, and a steam flour-mill contribute to its industrial activity.

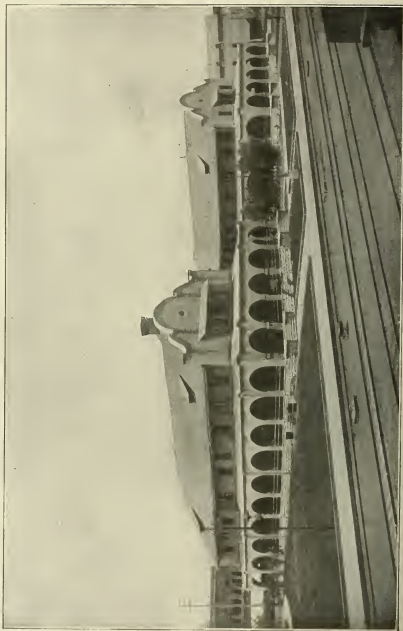
The Normal University, built entirely of native stone, is the finest school building in the Territory. Las Vegas contains the State Asylum for the Insane.

It is widely known as a health resort for consumptive patients, many of whom find here the precise conditions suitable to their needs. It stands on treeless meadows, underlaid by blue limestone and red and white sandstone. It is watered by the slender Rio Gallinas, which is Spanish for Turkey River. The Harvey Hotel at Las Vegas is the most sumptuous railway eating-house anywhere to be found. It was named for the historian of the Coronado Expedition, Pedro de Casteñeda, of Najera.



THE ENCHANTED MESA.

STARVATION PEAK.—There is a symmetrical, flat-topped mountain visible from numerous points along a distance of many miles, but most nearly to be seen from the neighborhood of Bernal, twenty miles below Las Vegas. This is Starvation Peak. Two or three gigantic crosses upon the summit give an air of solemnity to the bleak mass which is quite in keeping



with the tale of dole which forms one of its traditions. Its early name was Bernal Peak, derived, like the name of the little village at its foot, from that of the first settler in the vicinity. It is said that in the first quarter of the nineteenth century the territory was generally involved in warfare with the Comanche and Navajo Indians, and the town of Bernal was attacked by the Navajoes. After a short siege the principal men of the town accepted an invitation to a council without arms, and were treacherously slain. The remainder of the settlers then fled toward the mountain, and about twenty of the number succeeded in reaching the summit. There they were secure from attack, but were besieged by the Indians below until they all died of starvation. Their bones were afterward collected by friendly hands and given burial, and the crosses were erected and maintained in their memory.

Thus runs one legend. The other maintains that the crosses were originally erected by the Brotherhood of Penitentes, and when their devotion flagged, some twenty-five years ago, a mysterious hermit appeared and made his home on the peak, engrossed in prayers and in exhortations to his numerous visitors to renew the former pious demonstrations. The crosses, which had fallen down, were replaced, and the penitential ceremonies received a new but short-lived impetus from the exhortations of the hermit.

PENITENTES.—The Spanish name of this order, which seems to have originated in Europe several centuries ago, is *Los Hermanos Penitentes* (the Penitent Brotherhood), commonly abbreviated to Penitentes. It has many members among the Mexicans of New Mexico and southern Colorado.

Upon initiation of a member his back is cut deeply with a sharp piece of flint or obsidian. The incisions are given a symbolic meaning, and their number depends upon the enthusiasm of the novice. If he asks to be given "the five wounds of Christ," or "the ten commandments," or "the forty days in the wilderness," he is scoriated just so many times with the flint. The wounds are cut open afresh each year thereafter to increase

the pain of the flagellations which are practiced. The scourging, or "discipline," consists of belaboring the bare back with a cruel whip, often made of cactus or soap-weed, and generally is performed by the penitent himself. It is no perfunctory ceremony, but a severe flogging, repeated for a self-imposed number of times, lacerating the flesh and drawing blood at every blow. One of the commoner demonstrations is a processional of such self-torturers. On other occasions the Penitentes stagger under the burden of heavy crosses, which they bear for long distances and to the point of exhaustion. The crosses are often twenty feet long and eight or ten inches square, weighing from 200 to 800 pounds. Sometimes only the upper part of the cross rests upon the shoulders, and the long upright is allowed to drag heavily on the ground. In other instances the entire weight bears on the shoulders and extended arms, each hand resting lightly upon the handle of a sword, the point pressing against the side of the poor zealot, whose arms can hardly support their load, yet cannot relax without plunging one or both swords into his body.

These tortures, inflicted "for the love of God," are varied in many ways, all revolting; and the climax is reached in a veritable crucifixion, when men suffer themselves to be bound and, formerly, even nailed upon a cross and suspended for half an hour in an agony which not infrequently has proven fatal. Modern public sentiment has practically done away with the worst realism of this horrible rite, but not a few Penitentes are said to be still living in New Mexico who bear in their palms the marks of the crucifying spike.

The Catholic church, within whose pale they belong, has vainly tried to suppress the fanatic ceremonies of this extraordinary order, although they are slowly yielding to the sentiment of a more rational age. The Penitentes dislike publicity, and in their flagellations are accustomed to conceal their identity from any chance stranger by wearing hoods of black cloth. Their demonstrations begin with Lent and culminate on Good

Friday; then they subside into unobtrusiveness as ordinary individuals for the remainder of the year.

Rowe.—Chicago, 1,290 miles; Los Angeles, 975 miles; San Diego, 1,058 miles; San Francisco, 1,287 miles. Altitude, 6,821 feet.

A convenient point of departure for the Pecos Ruin and the upper Pecos River, description of which follows:

THE PECOS RUIN.—Fifty miles below Las Vegas, on the rise to the pass of the Glorieta Mountain, there is visible upon the



RUINS OF THE PECOS CHURCH.

right, at a distance of several miles, an open valley in whose center stands a gaunt brown ruin. It is what is left of one of the first missions founded in New Mexico, approximately three and a half centuries old, and about it are strewn the ruins of an ancient Indian pueblo whose greater age may hardly be guessed. Not impossibly it was inhabited centuries before the Spaniards came. The church ruin only is distinguishable from the train, and is not impressive in that view, but seen at close range it is augustly imposing. It is four miles from Rowe, and viewed nearly it possesses the valley—a lonely thing, weighted with tragic and mysterious memory. Upon a natural fortress-like elevation a few acres in extent, and rock-walled upon three sides, the razed pueblo lies scattered, an al-

most unintelligible heap of stones, with here and there a bit or an angle of wall standing. Upon the fourth side stand the dismantled adobe walls of the church. Every portable thing of particular value to the antiquarian or the merely curious has been carried away long ago, except scattered arrow-heads of flint and obsidian, which may still be picked up from the surface of the rock-strewn slopes.

The Pecos Church is supposed to have been built by the Friars soon after Coronado's conquest, in accordance with their custom of locating missions in the villages of the natives. In the Pueblo rebellion of 1680 it was partially burned.

The Pecos church is supposed to have been built by the other crude architectural ornaments, which have since been stripped from the edifice. The number of arrow-heads still obtainable, after so many have been carried away, is sufficient evidence that this was often the scene of savage warfare. The course of old irrigating ditches is still discernible, and the plain which now supports only a few stray cattle and burros, and is rapidly growing over with forest, must once have maintained many hundreds of these agricultural people.

The Pecos tribe, reduced by some ill-starred fate to a mere handful, quitted this place half a century ago to dwell at Jemez, near the Rio Grande, west of Santa Fé.

There are reputed traditions of the Pecos Pueblo which give an Aztec kinship to these former inhabitants, but they sound more like myths that have been falsely imputed. For example, the story that the Pecos Indians maintain that here Montezuma last reviewed his army before ascending into heaven, promising one day to return, and that so long as the tribe dwelt here a vestal flame was kept burning upon the altar in expectation of his coming. There is no good reason to believe that Montezuma is or ever was a god of the Pueblos. In any event this Montezuma myth is incoherent and elusive, if indeed it has anything of genuine Pueblo tradition about it. About as much is actually known of the past history of the

MOKI FAMILY, SHIPACTLOVI.



MOKI CHILDREN.



WOMEN OF ACOMA.



people of the Pueblos as of the ancient Egyptians, or any other wholly problematical people that might be named.

THE PECOS RIVER AND NATIONAL PARK.—Far in the mountains upon the north the Pecos River rises, and flows southward through the reservation of the Pecos Pueblo, crossing the railroad just east of Rowe, and continuing southeastward to a junction with the Rio Grande in Texas. It becomes a large and important river during its course, but here is only a mountain stream, although much larger than any yet encountered in the Territory. Its uppermost portion is included in a large tract which has been set aside for a national park, whose lower bounds reach almost to the ruin. The park is a wildly beautiful country of forest, and meadow, and mountain, said to abound in game. The river swarms with trout. As far down as the vicinity of the pueblo, the fishing is of the very best. While the trout do not attain the large size boasted by eastern lakes and the more famous Colorado streams, they rarely weigh less than half a pound, and two-pounders are occasionally captured. They take the fly freely. The Pecos is shallow enough for continuous wading, except for occasional pools, and broad enough to give full play to the skill of the fly-fisherman. It is, moreover, a water-course of exceptional beauty, a succession of rapids, falls and whirlpools through exquisite bits of woodland and meadow, and occasional gorges with perpendicular rock walls, whose splendors of form and color can hardly be exaggerated.

Glorieta Pass.—Altitude, 7,453 feet.

Glorieta means a summer-house, a bower; and its application here is probably no more than an allusion to the gentle verdured beauty of the scene. Here the forest is again encountered on the main line, for the first time since leaving the Raton Pass, 150 miles back. The whole length of the pass is nearly thirty miles, and is a natural park which art could hardly improve. Away to the north the mountains lie piled, the fragrant pines thickly set between. There are cuts through the rock, and deep water-hewn gorges. The air is cool, even in

midsummer. Twenty feet below the summit, upon the eastern slope, is the little town of Glorieta. The western end of the pass is Apache Cañon, a savage notch where the mountain gives grudging passage. A battle took place on this ground in 1847, between Kearney's Army of the West and the Mexicans, and here in 1862 the Federal and Confederate forces met in conflict.

At the further end of this cañon, near the track, a missionary priest named Lamy, afterward archbishop of Santa Fé, once taught the Indians in a little adobe school house.

The Glorieta Mountain is the real water-shed of this region, and its western slope descends to the Rio Grande Valley. Thus it happens that the Pecos, taking rise very near the Rio Grande, wanders for hundreds of miles before finding a way to join that great stream.

Lamy. — Chicago, 1,309 miles; Los Angeles, 956 miles; San Diego, 1,039 miles; San Francisco, 1,268 miles. Dining station. Junction with line to Santa Fé. Altitude, 6,475 feet.

The distance to Santa Fé is eighteen miles. The holder of a round-trip California ticket may obtain a side ride from Lamy to Santa Fé and return, without extra payment, upon application to the ticket agent at Lamy. Seven miles beyond, at Kennedy, a new railroad crosses the Santa Fé Central.

Santa Fe. — Chicago, 1,327 miles; Los Angeles, 974 miles; San Diego, 1,057 miles; San Francisco, 1,286 miles. Junction with Santa Fe Southern Railway. Altitude, 7,019 feet. Railroad station, 6,954 feet. Population, 5,603.

Twenty miles from the Rio Grande, in the middle of a high plain rimmed by mountain peaks. Its claim to being the oldest city in the United States (St. Augustine, its only contestant, dating from 1595) rests upon the discovery of a native village upon the same site by Coronado in 1540. The Spanish city was actually founded as early as 1605, and some say 1598. Its population is about equally divided between Mexican and Saxon.

The older part of the town is typically Mexican, composed

of little squat adobe houses irregularly strung along the sides of narrow streets. It is unwearyingly picturesque. Old men and old women sit placidly in the black shadows by the roadside, as if lounging were the only authentic business of life and they its hearty exemplars. Occasionally a woman



AN ANCIENT ADOBE.

issues from one of the houses to go a-visiting, her head and shoulders muffled in the black, fringed shawl which they call *tapelo*; or a dog barks; or a swarthy huckster appears aimlessly following the vagaries of a burro loaded to a small steeple-height with firewood or latticed boxes filled with

garden truck. Otherwise nothing appears to be doing. One suspects the problem of life is solved here on the old philosophic plan of requiring but little to subsist upon, and falls to wondering how the houses, primitive as they are, ever got themselves built. A seventh-day inactivity prevails. It is a city asleep, or mummified, rather, preserved almost unchanged for centuries by its gift of repose. It seems to be always drowsy noon, bathed in the brilliant sunlight which has no peer outside of New Mexico. This sunlight is necessary to old Santa Fé. One cannot conceive it in a land of fog and cloudy weather. The brown adobe walls gleam almost golden above their sharply cut shadows. Here and there is a high-walled inclosure with ponderous gate of solid wood, through whose aperture may be had a glimpse of the brilliant green of dense foliage and the vivid variegated colors of flowers. These seem to declare the existence of a happy domestic life behind the adobe.

In the center of the cluster stands the Church of San Miguel, upon the street that bears its name. Built soon after the Spanish occupation, it was partly demolished by the natives in 1680, rehabilitated in 1710, and since further repaired into



SAN FRANCISCO STREET, SANTA FÉ.

a resumption of its original appearance. It contains a very ancient copper bell, formerly in the turret, in which the date 1350 is cast.

Almost in the shadow of the church stands, among other houses, the one in which Coronado is believed to have lodged.

Modern Santa Fé stands on the other side of the little dividing river, although much that is characteristically Mexican is mingled with it. The lower part of San Francisco Street is almost wholly lined by adobe structures, and its throng is a motley composition of Indians, Mexicans and brisk business men of a different extraction. This was the scene of the transition period, of whose high romance many chapters might be written. The old Mexican town of prodigious mercantile importance as a receiving and distributing point was sapped by the diversion of traffic which naturally followed from railroad construction through the Territory. The exuberance of that

era, when it was a central depot for overland caravans and stages, no longer pertains to Santa Fé, although it is an active and growing city.

At the side of the plaza stands the Palace, as old as Santa Fé itself, in which has been the home and office of every



GOVERNOR'S PALACE AT SANTA FÉ.

Governor of New Mexico since the first viceroy. Before the rebellion of 1680 the Holy Inquisition, *Santo Oficio*, held its functions there,

and in the plaza in front of its placid walls many a Pueblo Indian has been executed. In the first decade of this century Lieut. Zebulon M. Pike, the explorer, was brought into its executive chamber to give an account of himself to Spanish authority, neither party dreaming that the United States would so soon preside there. At least, if Pike dreamed it he was very discreet, and after being detained for some months by a form of hospitality which was understood on both sides to be captivity courteously disguised, he was allowed to depart. A portion of the palace is now occupied by the collections of the Historical Society, which include innumerable archæological and historical treasures.

The Rosario Chapel, erected by Diego de Vargas in pious gratitude for his victory over the Pueblos, in 1692, is another antiquity. It stands upon an eminence nearly a mile from the heart of the city, where Vargas first looked down, with his little army, upon the town from which his countrymen had been repulsed for twelve years. By its side is the modern Ramona Indian school.

The Cathedral of San Francisco and the churches of Our Lady of Guadalupe and Our Lady of Light contain ancient paintings and wood carvings, and the Territorial Library possesses the old Spanish records.

Pajarito Park lies north of Santa Fe, and may be reached by carriage, the trip requiring four or five days, at a cost of \$5.00 a day for three persons. Another point of departure is Espanola, from which place it is only two hours' ride. The ancient ruins here include the Cavate Lodge in the valley, and well preserved cliff ruins. Of the latter two groups are of extraordinary interest, comprising a perpendicular wall a mile in length, completely honeycombed with rooms. The United States government contemplates taking control of the park in order to preserve its treasure from vandals.

The penitentiary and Fort Marcy are other Government institutions located at Santa Fé.

Besides the Ramona school, the St. Catherine school and Dawes Institute are educational institutions for Indians.

Santa Fé Cañon, Monument Rock (on the border of the Pecos National Park), and the pueblos of Tesuque and Nambé are near objects of interest. Farther away are the pueblas of Pojoaque, San Ildefonse, Santa Ana, San Juan, Picuris and Taos, all adjacent to the Rio Grande Valley.

Los Cerrillos.—Eighteen miles beyond Lamy.

This is the location of large mines of both anthracite and bituminous coal. There are also gold, copper and turquoise mines.

Domingo.—Chicago, 1,340 miles; Los Angeles, 925 miles; San Diego, 1,008 miles; San Francisco, 1,237 miles. Altitude, 5,263 feet.

The pueblo of San Domingo lies at a distance of two or three miles on the other side of the Galisteo River, and can very conveniently be reached from this station, although it is usually included among the sights of the vicinity of Santa Fé.

The yearly feasts and rites of these strange people are, nevertheless, of great interest, regardless of the relative unimportance of the pueblo, and upon such occasions many New Mexicans flock together from immediately neighboring towns to witness the spectacle. The Indian pueblo of Cochiti is 10 miles from Domingo and has a population of 250 people.

At Domingo the Galisteo joins the Rio Grande, whose valley is followed as far as Albuquerque.

Mexican villages are plentifully strewn by the way. The life of the inhabitants of these villages is very simple and placidly happy. It goes on undisturbed by any of the changes that occur in what we call the world. There are births and weddings, and deaths; that is the summary of exciting events. There are no lawyers or doctors, nor any politics. The only scholar is the priest. They have no theories; they try no experiments; and they often live to a very old age. But they are not barbarians. They possess an easy courtesy, a perfect understanding of even the statelier forms of politeness that is an inheritance with them, an integral part of the Spanish blood which, to a greater or less degree, flows in their veins.

Albuquerque. —Chicago, 1,377 miles; Los Angeles, 888 miles; San Diego, 971 miles; San Francisco, 1,200 miles. Junction with A., T. & S. F. Ry. Coast Lines. Altitude, 4,950 feet. Population, 6,238.

Metropolis of the upper Rio Grande Valley. Here, as at Santa Fé, there are two towns. In the old town, which lies a mile and a half from the new, there are over 1,000 people.



CATHEDRAL, ALBUQUERQUE.

THE ALVARADO, ALBUQUERQUE, NEW MEXICO.



It contains an ancient cathedral and interesting relics of old Spanish and Mexican days. The new town dates from 1880.

Albuquerque lies in a lovely part of the valley, midway between the sightly Sandia Mountains on the east and a volcanic range on the west. Its neighboring attractions are the Coyote Mineral Springs, several small Mexican communities, and the pueblo of Isleta, besides numerous resorts in the mountains, all reached by enjoyable drives over excellent roads. There are many orchards and vineyards. An active business center, its immediate commercial sway extends over an area larger than New England. The lumber mill represents an investment of \$1,000,000, employs 300 men, and has a normal capacity of 35,000,000 feet a year, but is capable of a maximum output of nearly 60,000,000 feet. Besides the railroad shops, there are two foundries, three flouring mills, a brewery and an ice factory employing half a thousand men, and a score of smaller concerns engaged in manufacture.

Among its public institutions are included the University of New Mexico, a Government Indian school, a Methodist college, the Southwestern Academy of the New West Education Commission, and St. Vincent's (Catholic) Academy. It has four large public school buildings, eleven churches, a free public library, and a commercial club, luxuriously quartered.

The Alvarado, a handsome Hotel connected with the Santa Fe station by a two hundred-foot arcade, is one of the first things to attract the traveler as he leaves the train. It is a low, widespreading edifice, built after the style of a Spanish mission. It is over three hundred feet long and one hundred and eighty feet wide, with a court or peristyle, in the center. The interior decoration is Spanish. One of the attractions of the Alvarado is its fine collection of Indian relics and products, comprising Moki, Navajo, Zuni, Apache, Pima and Mexican treasures of handicraft. A model of an Indian pueblo, and the finest wares from the adjacent region are also exhibited.

California passengers here turn westward. Upon the south

the railway follows the Rio Grande Valley to El Paso and the Mexican border.

Isleta.—Altitude, 4,898 feet.

This pueblo lies close to the railroad track and in plain view from the train. By necessity of train schedules, the through California passenger commonly passes it after nightfall. It is a fair sight, a huge rectangular terraced pile gleaming white in the sun, the peaks of numerous rough ladders showing in sharp relief. Comely Indian maidens and aged squaws are always at the train to offer wares for sale, but otherwise the Pueblo Indian does not appear to pay much attention to the presence of the Caucasian. He is not curious. Of the outer world he knows little. He is mildly but exclusively engrossed in his own affairs. The daily presence of that disturbing factor, the railroad, does not affect the profound inertia of his type.

The festivals of the Rio Grande Indians are most interesting. Each pueblo has its Saint's Day, which is celebrated with appropriate ceremonies. Nambe is fifteen miles from Pueblo, and may be reached in two hours. Round trip, from \$4.00 to \$5.00, according to the number of persons. Pojaoque is three miles from Nambe. San Ildefonse is on the Denver & Rio Grande railroad, the pueblo being one and a half miles from San Ildefonse station. It has two festivals, on September 6 and January 23. Santa Clara is one of the most interesting pueblos and is reached by the D. & R. G. R. R. from Espanola. San Juan is the largest of the pueblos, and is six miles from Espanola. It has double terraced houses, which are entered by ladders. The festival here is held on St. John's Day, June 24. Picuris is fifteen miles from Embudo, on the D. & R. G. R. R., and holds its ceremonies on August 10. The pueblo of Taos is the most interesting of the group, and is thirty-two miles from Tres Piedras, on the D. & R. G. R. R. It is noted for the height of its buildings, some of which are five and seven stories high. It is surrounded by a wall in which are loop-holes. The festival here is held on September 30, and is the best known and well attended.

On the lower Rio Grande are the pueblos of Conchita, Santa Domingo and San Filipe, all of them being reached from Domingo. The ceremonies here, held on the 14th of July, are the most interesting. The pueblos of San Dia, Santa Ana, Sia, Jemez and Isleta are all reached from Albuquerque. The ceremonial day of Jemez is August 15, and that of Isleta August 28.

There are some twenty inhabited Pueblo villages in New Mexico, all in the northwestern division, with an aggregate population of about 8,000, comprising five tribal stocks, each of which possesses a distinct language: Quéres, Tiguas, Tewas, Zuñis and Jemez. The Moki villages are in Arizona. Up to the time of the Spanish conquest the Pueblo Indians were in the habit of occasionally changing their abode, and there are in New Mexico the ruins of hundreds of stone pueblos so abandoned. The Spaniards allotted them reservations of land surrounding the sites upon which they were found, which were subsequently confirmed by the United States Government, and by that act they were permanently fixed in that place.

The inhabitants of Isleta are Tiguas. Their reservation contains about 110,000 acres, and agriculture and fruit raising are very profitably followed. Pottery is purchased from the people of smaller pueblos, and blankets from the Navajoes, experience having taught these thrifty Tiguas that their own time can be more profitably employed in tilling the soil.

Laguna.—Chicago, 1,443 miles; Los Angeles, 822 miles; San Diego, 905 miles; San Francisco, 1,134 miles. Altitude, 5,786 feet. Population (Indian), 1,140.

The youngest of the pueblos, originally recruited from Acoma, Zuñi, Zia, and Cochiti, in 1699. The train runs directly past it.

It is perched upon a sterile hill, in a compact cluster. This form of habitation, it should be remembered, is not a freak of fancy, but the outcome of the needs of a harassed but not

cowardly people. It is a fortress, and the entrance by way of a ladder to the roof was a part of the defensive plan. From time immemorial the Pueblo Indians were surrounded by enemies—Apaches, Navajoes, and the like—all nomads and robbers by nature. The Indians of the pueblos were very much unlike their foes; they were not predatory; they tilled the soil; they provided thriftily against future needs; and, in consequence, they always had something in their possession to tempt the cupidity of the Bedouin wanderers of mountain and plain.

Laguna is also the usual point of departure for the Pueblo of Acoma, which lies about fourteen miles distant on the south. Accommodations for travelers may be had at the Marmon house, near the station. A team and driver may be hired to visit Acoma at the rate of \$5.00 for one passenger and \$6.00 for two. The trip can be made in a day.

ACOMA.—Pueblos are much alike in structure, general appearance and people. Their individual interest is derived from natural environment and historical or legendary association. It is by virtue of both these distinctions that Acoma has become known to fame as the most poetic of all the pueblos, if not of all human habitations on this continent. The first view of the valley of Acoma is a scene of incomparable beauty; a long, broad, steep-walled basin, carpeted with grass and green with growing crops, in autumn flaming with yellow blossoming thickets, and bordered by cliffs and quaintly eroded columns, buttes and obelisks of red, yellow, green and brown sandstone.

In the midst stands the rock mesa which is surmounted by the pueblo of Acoma, a monolith that rises 350 feet above the floor of the valley, with a fairly level top many acres in extent. The steep cliff sides of the mesa guard the pueblo more effectually than would cannon or an intrenched army. Numerous trails, feasible for a tribe of Indians that for unnumbered centuries has been bred to daily familiarity with such vertiginous passages, scale the rock, but only three may be safely attempted by a white man. One of these, constructed in

recent years, is practicable for horses; that is to say mountain-bred horses. The other two are arduous enough to tax the address and endurance of the average mountaineer.

The inhabitants of Acoma are of the tribe of Quéres. The pueblo is not a single structure, but is built upon three parallel streets running north and south, the houses, except in one instance, fronting the east. They are connected, and present the appearance of long terraces of three gigantic stone steps, the second and third stories being commonly reached by



TERRACED HOUSES, PUEBLO OF ACOMA.

way of a ladder and the intervening roofs, although there are now occasional doors in the lowermost story. Partition walls project at intervals of twelve or fifteen feet. Brightly decorated *tinajas*, or water-jars, are placed æsthetically here and there upon the roofs, and the chimneys are of pottery. Nearly everybody is cleanly clad in cotton and a blanket of gaudy hue, with leggings and moccasins, and a brilliant turban bound about the hair. All Indians are adepts in sign language, and among the Quéres a conventional code of signs, conveyed by the peculiar disposition of the knot of the turban, is in vogue.

Three miles down the valley from Acoma stands a mag-



LUNCHEON PARTY AT ACOMA.

nificent lone rock, nearly twice its height. This is the *Mesa Encantada*, or Enchanted Mesa. Many centuries ago, according to the Quéres tradition, as given to the world by Mr. Charles F. Lammis, they dwelt upon that summit, to which a single trail of prodigious difficulty gave access. A large portion of the face of the cliff which gave this solitary footing was undermined by an inundation, and fell upon the plain one day when every inhabitant except a few old and sick women was at work in the fields below. The mesa was rendered absolutely unscalable by the falling of the cliff, and those unfortunates perished of starvation within hearing of the lamentations of their kindred. After that catastrophe the present site was built upon, and in time the old table-rock came to be regarded as *encantada*, or, perhaps, as we would say, haunted.

It was the present pueblo that the Spaniards discovered in 1539, and even then the story of *Mesa Encantada* was a very ancient legend. The Acomas did not get on well with their Castilian conquerors. They were at first disposed to treat them as belonging to a supernatural order of beings, but that illusion soon passed. A party of soldiers was decoyed upon the mesa and massacred, and Lieutenant de Zaldivar was sent by Oñate to administer punishment. In single file some fifty of those astonishing soldiers of Spain clambered upon the mesa and fought hand to hand for three days with the Acomas, and conquered them. That was in January, 1599. At the time of the memorable uprising, August, 1680, a Franciscan church had long been established at Acoma. The Pueblo tribes are by nature a religious people. Everything has to them some religious meaning or mystical association, even their gambling being preceded by an invocation. But the fact that missionaries were not spared in the general massacre of Spaniards indicates that their adoption of the Catholic faith was only superficial. The church was rebuilt nearly two hundred years ago, and is an immense structure, with walls 60 feet high and 7 feet thick. It has timbers 40 feet long and more than a foot square, which, together with everything else



A HOPI WEAVER.

in Acoma, was brought on the backs of the Quéres up the trails from the plain below, at cost of incredible labor lasting through many years. The reservation contains nearly 96,000 acres.

Like the other Pueblo tribes, the Acomas are given to public religious ceremonials. The Sun Dance and the Feast of St. Stephen are the most impressive.

LAVA BEDS.—For several miles in this region, lava beds lie on either hand, like the flow of a river. The craters are all extinct long since, although the eruptions frequently present the appearance of comparatively recent occurrence. The cinder cones near Flagstaff, in Arizona, wear a strikingly fresh look, some of those symmetrical black ash-heaps being almost bare of tree or twig, but it is in the very crater summits of such cones that the cave-dwellings are found, and they are admittedly prehistoric. Yet one will sink to one's ankles in volcanic sand and gravel-cinder in climbing the slopes. Doubtless many centuries have elapsed since this lava stream oozed from a fissure in the plain, and since the neighboring mountain-craters, which you may see from the car window, fired the sky with their glow.

SAN MATEO MOUNTAINS.—Northward from Grant's, a station thirty miles beyond Laguna.

Guam.—Chicago, 1,513 miles; Los Angeles, 752 miles; San Diego, 835 miles; San Francisco, 1,064 miles. Altitude, 6,996 feet.

Continental Divide. Henceforward the rivers flow toward the west.

For many miles, on the north side of the track, is to be seen a picturesque line of red and gray palisades, the work of erosion.

Wingate.—Ten miles beyond Guam. Altitude, 6,736 feet. One of the points of departure for Zuñi pueblo.

Fort Wingate lies within sight upon the south. Near by stands the curious cathedral-shaped rock upon which the name "Navajo Church" has been bestowed, in recognition of its suggestive appearance.

The pueblo of Zuñi lies about forty miles south from Wingate. The reservation contains more than 215,000 acres. The pueblo is a five-story structure, in pyramidal form, with clustering detached blocks.

The Zuñis number nearly 600. This is the tribe that was brought into especial prominence by Mr. Frank Cushing, who, as agent of the Hemenway expedition, dwelt a long time among them, and upon one occasion conducted a number of their chief men on a tour of the Eastern cities, where they attracted no little attention and doubtless since their return have been regarded as unconscionable liars, because of attempting to pass off stories of the white man's astonishing civilization as true.

Like all the Pueblo tribes, the Zuñis are industrious and courageous. They are complex and ceremonious in religion, and have many secret societies. And the moral atmosphere of their community will bear favorable comparison with almost any community of the same size among the Caucasians.

The Navajo Indian Colony, numbering about 16,000 people, is reached from Gallup, Holbrook and Winslow. These Indians are called "the Bedouins of the desert" from the fact that they never settle for any length of time in any one village, but live in "hogans," or temporary structures, and travel from place to place. The Navajo Indians are noted for their blankets, which have a peculiar weave, and they are also expert silversmiths, a very unusual occupation for Indians. They are great horsemen, and raise sheep and cattle. The medicine and fire dances are very unique and weird.

Gallup.—Twenty-two miles beyond Coolidge. Altitude, 6,498 feet. An eating station for certain trains, and an active town. Coal mines here from which the Santa Fe Railroad draws its supply. Zuñi pueblo reached from here.

Manuelito.—Thirty-eight miles beyond Guam. Altitude, 6,252 feet. Near the Arizona boundary.

For one desiring to visit the cañons of the Rio de Chelly, with their remarkable and extensive ruins of cliff-dwellings,

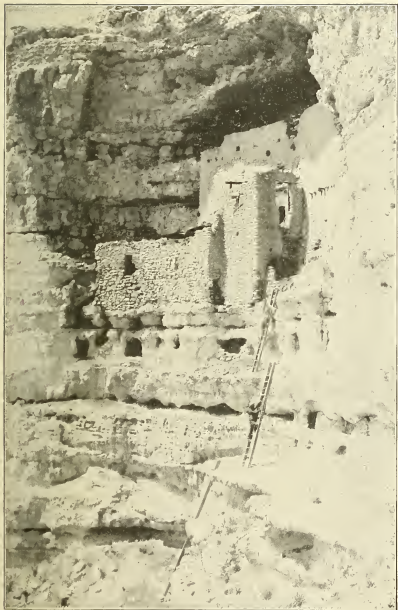
which have been only partially explored up to the present, special facilities will doubtless be provided at some future day to make this trip practicable. The celebrated portions of the Cañon de Chelly lie at a distance of upward of fifty miles north, and at present special arrangements for transportation would have to be made by an intending visitor. It is mentioned here, in passing, merely as one of the marvels of this region, of whose existence, not to say whose features, comparatively few are yet aware.

ARIZONA.

Here, as in New Mexico, are monuments of an ancient and mysterious people, but the pueblos, and possibly the cliff-dwellings, are antedated by ruins of a semi-civilization which waxed and waned many centuries ago. That a multitude long vanished once dwelt in this titanic land is evidenced by the ruins of irrigating canals of enormous extent found in the southern part of the Territory. They were scientifically constructed by human hands, and utilized for the maintenance of hundreds of thousands of human beings. So much and no more is known. The throngs that populated the valleys have disappeared mysteriously.

The antiquities of the northern portion are the cliff-dwellings and ruins of former pueblos. Scores of the former have been found, perched high on the steep walls of cañons and on the hill-tops that rise above the level of the broad arid plateaus. The builders of these, too, had vanished before the Spaniards came, only the Mokis, dwelling in their pueblos far to the north, and the wandering Apaches and Pimas, remaining to represent mankind in all this wide land. For thousands of square miles this region is an almost untouched treasure-house of antiquities.

The world is a pretty ancient dust heap, wherever you may choose to stand, and written history is a serial story of which all save the last two or three chapters is missing; but a hiatus exists in Arizona that is not commonly brought so sharply to



MONTEZUMA'S CASTLE, NEAR CAMP VERDE, ARIZ.
FIRST CLIFF DWELLING IN THE COUNTRY.

the sense. The impressive thing is not that it was anciently inhabited, for we have learned something from the mounds of Ohio and elsewhere about the antiquity of human life on our continent, but that oblivion should have covered these people like a wave, and for centuries these valleys, and plains, and cañons should have remained desolate, where once was an animated multitude—this gives the air of tragic romance.

The history of Arizona, like its topography, is convulsed, rent, gashed, whole volumes missing. It begins intelligibly with Marcos de Niza, in 1539, for this was the route of the original northward exploration from Mexico. For more than two centuries after the Spanish discovery Arizona was a part of New Mexico, but the portion included in the present territory was crossed and recrossed by those tireless world-conquerors. The first settlement was made in 1685, in the neighborhood of Tucson. The missionaries then began their work of civilization, and mining and agriculture were undertaken in the face of Apache hostility. The suppression of the missions by Mexico early in the nineteenth century practically surrendered the country to the Apaches, who promptly annihilated what remained of Spanish enterprise, and long resisted the invasion of our own colonists; but in the end they were subdued and banished to distant reservations.

The acquisition of New Mexico by the United States, in 1848, included all of Arizona north of the Gila River; the remainder was purchased from Mexico, in 1853. The Territory of Arizona was created by Congress in 1863.

It is a land of high plains, rich valleys, pine parks, wide terraces, towering mountains, tremendous chasms, burnt-out volcanoes, lava-beds, deserts, painted rocks, mesas and buttes; aglow with color, overhung by an arch of deepest blue, enveloped by a pure, cool, rarefied air, and encompassed by silence and a sense of immeasurable vastness. It is a marvel of geological revelation. The unparalleled gashes that rend the earth's crust perpendicularly more than a mile deep and many hundred miles long, as in the Grand Cañon of the Colorado

River, exhibit the rock series all the way down to the primitive formations. In ancient times that the geologist wots of, it was alternately the bed of salt and fresh water seas of vast extent, and although the sand-blast has carved curious shapes of stone, the mark of water is everywhere. Its erosion is traceable on the cliffs and in the cañons, which latter are largely due to its action. It has washed rock strata thousands of feet thick from the surface of thousands of square miles, and swept the detritus away to some distant ocean bourne.

In altitude it ranges from below sea level, on the south, to 13,000 feet above. Its actual dimensions are about 380 by 320 miles, embracing 113,020 square miles; the total population of about 75,000 being restricted to small areas separated by wide untouched intervals. These intervals consist of mountain ranges, rich in mineral, of pine parks of magnificent timber, of rich valleys, some of which still await irrigation, of open tracts too arid for agriculture but valuable for grazing, and of genuine desert.

The deserts of Arizona, however, are neither monotonous nor lifeless. They are most emphatic in character in the southern portion of the Territory, yet even there picturesque and beautiful plant life is not wanting. The saguaro cactus (*Cercus giganteus*) is plentiful there, towering to a height of from thirty to sixty feet. Its diameter, whose maximum is about two feet, is nearly as great at the summit as at the base, and its fluted column, sometimes, but not always, branching, is of a deep green color, and is protected by innumerable stout spines. It is crowned by clusters of showy white flowers, and the fruit is red, containing saccharine and vinous qualities. This saguaro cactus grows, in proximity to water, at the rate of a foot per annum, but in the driest regions only a twelfth as fast. Yet even there it yields, on puncturing, a generous flow of water, somewhat unpalatable, but sufficient to quench the thirst of a needy traveler; and its pulpy part is edible. The echina cactus has a short, thick trunk, surmounted by yellow or crimson flowers. The cucumber cactus is fiercely thorny,

with large crimson flowers and a fruit which contains an edible seedy pulp of pleasant flavor. The cholla is a variety of branching cactus, with loosely jointed limbs that easily part at the socket. Its thorns will pierce stout leather, and are



GIANT CACTUS.

scrupulously to be avoided. Another variety is the prickly pear, which is the most common cactus throughout the West. Its leaflike segments grow without any apparent method, one out of another. There is also the fish-hook cactus, whose small spines are hook-shape. The agave, or century plant, and the yucca are exceedingly common, and their imposing spikes of large cream-colored flowers are very beautiful. The flower spike of the *yucca gloriosa* runs up to a height of ten or fifteen feet, and sometimes supports nearly a thousand blossoms.

Among the more rare desert growths of Arizona is a lily that blooms about the time of Easter. The flower is white, streaked with pale green.

Of animals, the Gila Monster is peculiar to Arizona. This

is a species of lizard which attains a length of nearly two feet, and presents a most repulsive appearance. It is found only in the south, in the heated valley of the Gila River, and is a subject of dispute in consequence of the alleged venom of its bite. It has been accused of emitting an acrid, poisonous breath when disturbed, and instances are offered which, if authentic, show that the bite of a Gila Monster is as much to be feared as that of a rattlesnake. But it is not abundant, even in its habitat, and appears, in any event, to be entirely harmless unless submitted to the indignity of handling, which its ferocious appearance does not encourage, whether it is venomous or no.

Our route traverses the upper portion of the Territory, at an elevation between 4,850 and 460 feet. It follows for some distance the Little Colorado River, and passes within easy access of the wonderful "petrified forest." It crosses Cañon Diablo. It leads through Flagstaff, past the foot of San Francisco Mountain, in whose near vicinity are the cliff and cave dwellings, and north of which stretches the brilliant and terrible Grand Cañon, which ranks as the grandest spectacle known anywhere upon earth. It continues on past Bill Williams Mountain, threads the gentle beauties of Johnson's Cañon, and, after passing through a number of mining towns, comes to the California boundary at the Colorado River.

The mining, smelting, and milling of ore constitute the chief industry, although agriculture and fruit-raising are rapidly coming to the front. The silver and gold mines have proven of enormous value, and the copper deposits are the richest in the world.

The lumber industry is active, and is based upon an incalculable supply of timber. The best quality of ornamental building-stone in the West is produced by the Peachblow sandstone quarries of Arizona.

Cattle, horses, mules, sheep, and swine are extensively raised.

The greatest agricultural and horticultural development has been in the south, in the great Alluvial River valleys, where

millions of dollars have been expended in constructing irrigating canals.

Navajo.—Chicago, 1,590 miles; Los Angeles, 675 miles; San Diego, 758 miles; San Francisco, 987 miles. Altitude, 5,626 feet.

A short distance from this station the government of the Territory was first organized in 1863.

Adamana Station.—Point of departure for the five sections of the petrified forest, several miles distant north and south. Tourists are cared for at the Forest Hotel.

PETRIFIED FORESTS.—In the vicinity of Adamana are one of the marvels of which it is the characteristic of Arizona to be profuse. This is a tract many thousand acres in extent, whose geological formation is sandstone resting on volcanic ash; and protruding from the sandstone, in water-worn basins and gulches, or entirely liberated and scattered over the surface, are innumerable petrified trunks of trees and their fragments, varying in size from mere chips and splinters to huge segments ten feet in diameter. It is believed that these trees, which appear to have been a species of pine or cedar, grew upon the shore of an inland sea, and after falling became water-logged, and the cell-structure was replaced by silica. Manganese and oxide of iron yielded a red, yellow and black coloring matter. These logs of stone have been curiously fractured, probably by the action of heat and cold, in a clean transverse cleavage, so that they appear exactly as if they had been neatly sawn apart into lengths which, in many instances, form disks only a few inches thick and many feet in diameter. All this vast heap of detritus is most beautiful when polished, and the term "jewel forest" is hardly a misnomer, for every particle—and there are millions of tons—is chalcedony, cornelian, agate, chrysoprase, amethyst, topaz and the like. In one instance one of these agatized trees, the trunk still intact, spans a cañon forty-five feet wide, fully fifty feet overlapping upon one side.



SECTIONS OF BIG TREE TRUNKS.



A GIANT TREE IN THIRD FOREST.

The first forest is distant six miles south from Adamana; the second, eight miles south; the third, thirteen miles southwest; the "blue," seven miles east and the "north sigillaria," nine miles north.

Holbrook.—Chicago, 1,630 miles; Los Angeles, 635 miles; San Diego, 718 miles; San Francisco, 947 miles. Altitude, 5,072 feet. Population, 250. One of the points of departure for the third petrified forest, about eighteen miles southeast.

Situated at the junction of the Zuñi and Puerco rivers (not the Rio Puerco of New Mexico, which is on the Atlantic Slope). The confluence of these two streams forms the Little Colorado, which flows northwestward and empties into the Grand Cañon, its own channel at the point of junction possessing nearly the grandeur that characterizes that of the Colorado proper.

Holbrook is also a point of departure for the White Mountain Indian reservation. A stage leaves daily at 3 P. M., arriving at the reservation the following day at 3 P. M., the round trip being \$15.00. The journey may also be made by private conveyance in three days. About 1,850 Apaches live on the reservation, which covers an area ninety-five by seventy miles, or two and a half million acres. San Carlos, another reservation to the south, has about 2,900 people, who are famed for their basket making. A point of interest is the fort occupied by United States troops.

Winslow.—Chicago, 1,662 miles; Los Angeles, 603 miles; San Diego, 686 miles; San Francisco, 915 miles. Altitude, 4,848 feet. Population, 1,305. Dining station.

A point of departure for the Moki pueblos of Oraibi, Shungopavi, Wolpi, Shipaulovi, Mishonginovi, Sichomovi and Tewa, or Hano. Reached by two days' journey from Winslow, Holbrook or Cañon Diablo, and from Gallup in New Mexico, at a cost of from \$5.00 to \$7.00 a day. The pueblos are located on top of high mesas. The people entertain themselves almost continuously the year round with ceremonies and dances, all of which are free to visitors. The



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MOKI MAIDENS.



A ZUNI POTTER.

most elaborate ceremonials are the grotesque Kachina, or masked dance; the poetic Flute dance, and the dramatic snake dance.

MOKI SNAKE DANCE.—The serpent is singularly prominent in human history. Its trail stretches past innumerable milestones from our own original Eden to the desert villages of the aborigines of Western and Southern America. The Aztecs sculptured the snake upon their ornamental stones, and the Pueblo Indians indent their pottery with an imitation of its scales. But most singular among the tributes to



A TRIO OF DANCERS.

the serpent is the snake dance, an astonishing annual rite said to have been formerly common to all the Pueblo tribes, but now practiced by the Mokis alone. For this ceremony numerous snakes, of every obtainable species, are captured alive on the desert. For nine days the priests of the Snake and Antelope societies hold secret ceremonies in their underground chambers, or *kivas*. Just before sunset on the ninth day the public ceremony of the

dance is performed in the open. It is a grimly impressive scene, accompanied by a low chant, during which the reptiles, both venomous and harmless, are handled with astonishing audacity and apparently with impunity. These Indians possess an antidote for snake-bite, whose secret is jealously guarded; but such is their dexterity they are rarely bitten. Their god of water is a snake, and the dance is a prayer for rain. It occurs in August, a critical period for these tillers of desert oases. It is intensely dramatic, rather than revolting, and every year is witnessed by larger

throng of white visitors, to whose presence the Mokis are not averse.

Canon Diablo.—Chicago, 1,688 miles; Los Angeles, 577 miles; San Diego, 660 miles; San Francisco, 889 miles. Altitude, 5,421 feet.

The name is Spanish for Devil Cañon. It is simply a hideous gash in the level plain, 540 feet wide and 222 feet



FLAGSTAFF.

deep, extending for many miles. At a little distance it can not be seen at all. It is crossed over an ingeniously constructed bridge.

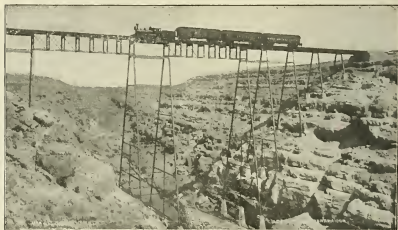
In the Harvard Mineralogical Museum is a meteorite of 150 pounds weight, studded with minute white diamonds, which was picked up in the bottom of this cañon. A few miles distant is a circular cavity in the earth, some 700 feet deep and a mile across, which is locally believed to mark the spot where an immense meteor once fell.

Cañon Diablo is one of the points of departure for the Moki pueblos, being the nearest for Oraibi, the largest of the seven villages, the road leading across the Painted Desert.

Flagstaff.—Chicago, 1,721 miles; Los Angeles, 544 miles; San Diego, 627 miles; San Francisco, 856 miles. Altitude,

6,886 feet. Population, 1,500. A point of departure for Grand Cañon of Arizona, San Francisco Peaks, cliff and cave dwellings and Oak Creek Cañon. (Seventy-five miles by stage to Grand Cañon, summer only.)

A United States cavalry corps was encamped on this spot one Fourth of July, and in honor of the day the national colors were hoisted to the top of a tall pine tree, which was stripped of its branches and made to serve as a gigantic flagstaff. The old pine, thus amputated, has disappeared, but the vigorous little town that has sprung on its site has succeeded to the name. A large aggregate capital is vested



CANON DIABLO.

in different enterprises here. It is the distributing point for a broad country through which stockmen and miners are scattered. One store alone carries a stock of general merchandise that is valued at over \$150,000. It lies in the midst of a beautiful pine park, on whose wide intervals large numbers of sheep and cattle graze. The great saw-mills of the Arizona Lumber Company are located a mile south of the center of the town. The red sandstone of the Flagstaff quarries is classed among the handsomest and most valuable of building stones. Portland, Los Angeles

and Denver have each imported from these quarries stone for the construction of costly public buildings.

The noble four-peaked mountain behind the town, upon the north, which has been conspicuously in sight for the past hundred miles, is the San Francisco Mountain.

Williams.—Chicago, 1,755 miles; Los Angeles, 510 miles; San Diego, 593 miles; San Francisco, 822 miles. Altitude, 6,750 feet. Population, 199. Station hotel, Fray Marcos.

The name of this station was derived from Bill Williams Peak, which is distinguishable upon the south, and the peak in its turn is indebted to a famous scout of early days.

A few miles beyond Williams begins a very pretty and varied gorge known as Johnson's Cañon, which extends for a considerable distance.

GRAND CANON OF ARIZONA.—The Colorado River, sweeping down through southern Utah and across northern Arizona, has carved a series of unprecedented chasms some four hundred miles long. Midway in Arizona occurs a climax 217 miles in length, to which, by way of crowning distinction, the name Grand Cañon has been given. Its brink is closely neighbored by a forest of pines such as is seen around Flagstaff, and it is as sudden and inconsequent a chasm as Cañon Diablo. But, taking the Diablo Cañon as a unit, the Grand Cañon is thirty times as deep and one hundred and twenty-five times as wide. It is not, however, a mere notch. It is thronged with hundreds upon hundreds of brilliantly colored mountainous bulks, as tall as the San Francisco Peaks, but whose summits rise only to the level of the plateau.

"The beholder is overwhelmed by the *ensemble* of a stupendous panorama, a thousand square miles in extent, that lies wholly beneath the eye, as if he stood upon a mountain peak instead of the level brink of a fearful chasm in the plateau whose opposite shore is thirteen miles away. A labyrinth of huge architectural forms, endlessly varied in design, fretted with ornamental devices, festooned with

lace-like webs formed of talus from the upper cliffs and painted with every color known to the palette in pure, transparent tones of marvelous delicacy. Never was picture more harmonious, never flower more exquisitely beautiful. It flashes instant communication of all that architecture and painting and music for a thousand years have gropingly striven to express. It is the soul of Michael Angelo and of Beethoven.

"A cañon, truly, but not after the accepted type. An intricate system of cañons, rather, all subordinate to the river channel in the midst, which in its turn is subordinate to the total effect. That river channel, the profoundest depth, and actually more than six thousand feet below the



EL TOVAR HOTEL, GRAND CAÑON.

point of view, is in seeming a rather insignificant trench, attracting the eye more by reason of its somber tone and mysterious suggestion than by any appreciable characteristic of a chasm. It is nearly five miles distant in a straight line, and its uppermost rims are 3,000 feet beneath the observer, whose measuring capacity is entirely inadequate to



BRIGHT ANGEL HOTEL, ON THE RIM OF GRAND CANYON.

the demand made by such magnitudes. One cannot believe the distance to be more than a mile as the crow flies, before descending the wall or attempting some other form of laborious measurement. Mere brain knowledge counts for little against the illusion under which the organ of vision is doomed here to labor. That cliff, deepening downward through gray, yellow and brown to red, is taller than the Washington Monument. The Auditorium in Chicago would not cover one-half its perpendicular span. Yet at first it does not greatly impress you. You idly toss a pebble toward it and are surprised that the missile fell short. Subsequently you learn that the cliff is a good half-mile distant, and after you have undertaken the descent of the trail down the wall you will have acquired a decided respect for a small Grand Cañon cliff. Relatively it is insignificant; in that sense your first estimate was correct. Were Vulcan to cast it bodily into the chasm directly beneath your feet it would pass for a boulder, if indeed it were discoverable to the unaided eye. Yet the immediate chasm itself is only the first step of a long terrace that leads down to the innermost gorge and the river. Roll a heavy stone to the rim and let it go. It falls sheer the height of a church or an Eiffel Tower, according to your position, and explodes like a bomb on a projecting ledge. If, happily, any considerable fragments remain, they bound onward like elastic balls, leaping in wild parabola from point to point, snapping trees like straws, bursting, crashing, thundering down until they make a last plunge over the brink of a void, and then there comes languidly up the cliff sides a faint, distant roar, and your boulder that has withstood the buffets of centuries lies scattered as wide as Wycliffe's ashes, although the final fragment has lodged only a little way, so to speak, below the rim. Such performances are frequently given in these amphitheatres without human aid, by the mere undermining of the rain, or perhaps it is here that Sisyphus rehearses his unending task.

Often in the silence of night a tremendous fragment may be heard crashing from terrace to terrace with shocks like thunder peal.

"The spectacle is so symmetrical and so completely excludes the outside world and its accustomed standards, it is with difficulty one can acquire any notion of its immensity. What is known to them as the Grand Cañon District lies principally in northwestern Arizona, its length from northwest to southeast, in a straight line, being about



NAVAJO INDIAN RACES.

180 miles, its width 125 miles, and its total area some 15,000 square miles. Its northerly beginning, at the high plateaus in southern Utah, is a series of terraces, many miles broad, dropping like a stairway step by step to successively lower geological formations, until in Arizona the platform is reached which borders the real chasm and extends southerly beyond far into the central part of that Territory. It is the theory of geologists that 10,000 feet of strata have been swept by erosion from the surface of

this entire platform, whose present uppermost formation is the carboniferous; the deduction being based upon the fact that the missing permian, mesozoic, and tertiary formations, which belong above this carboniferous in the series, are found in their place at the beginning of the northern terraces referred to. The climax in this extraordinary example of erosion is, of course, the chasm of the Grand Cañon proper, which, were the missing strata restored to the adjacent plateau, would be 16,000 feet deep. It does seem incredible that water should have carved such a trough in solid rock. Briefly, the whole region appears to have been repeatedly lifted and submerged, both under the ocean and under a fresh-water sea, and during the period of the last upheaval the river cut its gorge. Existing as the drainage system of a vast territory, it had the right of way, and as the plateau deliberately rose before the pressure of the internal forces, slowly, as grind the mills of the gods, through a period not to be measured by years, the river kept its bed worn down to the level of erosion; sawed its channel free, as the saw cuts the log that is thrust against it. Tributaries, traceable now only by dry lateral gorges, and the gradual but no less effective process of weathering, did the rest.

Most visitors view the panorama from the rim of the plateau, but for the more adventurous, trails are available that lead to the river's edge in the bottom of the lowermost gorge, and saddle-horses and guides are provided. The rim may also be comfortably followed for 100 miles from the Little Colorado River upon the east to Cataract Cañon upon the west. The Grand Cañon is rapidly widening its deserved reputation as the most wonderful and impressive natural scene known to mankind, and each succeeding year it is visited by an increasing number. It lies about sixty-five miles distant from the through California line of the Santa Fe and is reached by a branch line of railroad from Williams station, the round trip fare being \$6.50.

Williams is a busy place, with sawmills and smelters, well stocked stores and hotels. It lies out in the Arizona sunshine, at the foot of protecting mountains, nearly four hundred miles west of Albuquerque. Here passengers change in the same depot to the Grand Cañon train, the time occupied in the journey being three hours. At the brink of the Cañon is a luxurious hotel, El Tovar, erected at a cost of a quarter of a million dollars. It is built of pine logs and stone in rustic style, and accommodates 300 guests. Every modern convenience is provided. Those wishing less ex-



A HERD OF BELT CATTLE, THE PRIDE OF THE WEST.

pensive quarters may stay at Bright Angel Camp, adjacent to El Tovar. Opposite the big hotel is an edifice built after the fashion of a Moki adobe, where are exhibited specimens of native Indian handiwork.

Excursions may be taken along the rim of the Cañon for miles east and west, over smooth roads. The trip, however, to the bottom of the Cañon, is the crowning feature of this scenic wonder of the world. Two trails lead from the rim down paths hewn from solid rock, to the river bed far, far below. The trail which is principally used is known as Bright Angel Trail and is perfectly safe. Many tourists stop when they reach what is known as the half-way house. Eight hours are required for going down and coming back, allowing two hours for lunch, rest and sight seeing. A stop-over of three days for the transcon-

tinental trip will allow practically two days at the Cañon. Whenever possible, the visitor should remain a week.

Stop-overs are granted at Williams, on railroad and Pull-



VIEW OF GRAND CAÑON.

man tickets, if advance application is made to train and Pullman conductors. Baggage may be stored in the station at Williams free of charge, by arrangement with ticket agent.

SAN FRANCISCO PEAKS.—Agassiz, 12,794 feet above the sea, is the highest of the four, but the practicable trail for the tourist is to the pinnacle of Humphrey's Peak, 12,750 feet. The distance from Flagstaff is about eleven miles, and there is a good

carriage road for seven miles. The remaining distance, to within a few yards of the topmost crag, is accomplished on horseback over a safe trail. The carriage road leads smoothly through pines and exquisite groves of



SAN FRANCISCO MOUNTAINS, NEAR FLAGSTAFF.

aspen, and gives place to a bridle-path at the foot of a steep grass-grown slope. From every successive angle of the trail that climbs this slope a wider panorama is unfolded, and objects far out on the plain seem to creep nearer to the mountain's foot. Above the terrace pines and firs shade the way, and the trail winds along the rim of a gorge where the avalanches of winter have torn tree and root and earth away down to the floor of rock. The timber line is very high, and for only a few hundred feet do the peaks stand bare of vegetation, although the last mile of the trail is taken up in solving the difficulties of this portion of the ascent. There are long doublings to ameliorate the pitch of the slope that sweeps far downward at a very small angle from the perpendicular. A short final clamber on foot over crags brings one to the top, a real apex, on which only a small party can find simultaneous footing.

From this point the entire circle of the horizon can be surveyed from a distance of from eighty to upward of two hun-

dred miles in every direction, and includes many objects of much interest, including extinct volcanoes, lava beds, the Painted Desert, the Moki villages, and the north wall of the Grand Cañon.

CLIFF AND CAVE DWELLINGS.—Eight miles southeast from Flagstaff, in the same park of yellow pines, are numerous cliff dwellings, in the rugged, beautiful Walnut Cañon. They occupy a level high up on either side of the narrow gorge where the harder strata had resisted the erosion of water and the weathering of time, and projecting shelves were thus formed with recesses between. A rough wall of rock fragments laid in mortar, and extended from the edge of the lower to the



CAVES OF THE CLIFF DWELLERS.

upper ledge, formed the front of the dwellings, which were subdivided into from three to five compartments. These dwellings, while the rooms are usually small, are numerous enough to have sheltered a population of several hundred, and by reason of their situation were easily de-

fended. Articles of a character in use among the Pueblo Indians have been found in these long-abandoned habitations, and it is not improbable that their ancient inhabitants were the parent stock of the Pueblo tribes. Whoever he was, that ancient man, he is an interesting and sorrowful figure, for there is something very pathetic about these deserted cliff dwellings, perched between earth and sky in a lonely cañon, old refuges against rapine in the days when the hand of the stronger was ever raised against the weaker. They were certainly hiding-places, either for a timid or a much-harassed handful of people, or for the wives and children of warriors in time of battle. The dense tragic veil of obscurity that hides

the history of the earliest occupants of our country can never be lifted.

The cave dwellings are north of Flagstaff about nine miles. They are the simplest conceivable habitations, consisting only of natural caverns formed by the spout-holes of a crater, on the summit of a small volcano. In some instances these black holes, which vary from the size of a mere closet to that of a commodious room, are roughly walled about with loose rock for defense. Fragments of pottery are abundant, and appear to be identical with that found in the cliff dwellings; but whether the last named were contemporaneous, or a subsequent evolution, has not been determined. There is abundant local evidence that the cave dwellings were long inhabited, and apparently by a considerable population. Scientists have never estimated the age of either at less than five or six centuries, and back of that the gulf of uncertainty widely yawns.

OAK CREEK CANYON.—Fifteen miles south from Flagstaff the channel of Oak Creek reaches its climax of impressiveness and beauty. It is a narrow, or "box," cañon, with walls which reach a thousand feet in height. The clear deep pools and foaming rapids of the "creek" contain myriads of trout, which are not commonly found in Arizona, where the streams are usually of a turbid character distasteful to this king of small game fish. The trout-fishing of Oak Creek is really excellent, and the cañon itself is impressive, in spite of the fact that the chaotic giant upon the north makes all others seem puerile by comparison.

CRATERS AND LAVA BEDS.—It is claimed that from the first thousand-feet elevation on San Francisco Mountain 300 extinct volcanoes can be seen. In any event, upon the north they are plentifully scattered. Many are perfectly formed cones, deeply covered with black and red cinder. Some of them are prettily set with shrubby cedar trees at regular intervals to their summits, appearing like the intelligent work of a

landscape gardener. Others are almost entirely bare of vegetation, and the lusterless black cones tipped and streaked with red seem to be touched by a perpetual ruddy ray of sunset light. Sunset Crater and Peachblow Mountain are names that were applied in recognition of this remarkable aspect. These two volcanoes are singularly beautiful in the landscape, although they are nearly as barren as a heap of coal-dust. Black Crater is regarded by geologists as the most remarkable known example of volcanic action, surpassing in interest even Mauna Loa, in Hawaii.

Large patches of lava also cover portions of the plain, looking at a distance like the dense shadow of a cloud, or the desolate charred path of a widespread conflagration.

THE PAINTED DESERT.—This is a weird, desolate plateau upon the northeast, traversed by the Little Colorado River. Except for that variable stream it is nearly destitute of water or vegetation, and its surface is covered with isolated peaks, buttes, columns and mesas of sandstone worn into fantastic shapes by ancient erosion and the sand-blast. It is a region of mirage and of wonderful coloring.

It is visible from the San Francisco peaks, but the vividness of its color is lost in distance.

Ash Fork.—Chicago, 1,778 miles; Los Angeles, 487 miles; San Diego, 570 miles; San Francisco, 799 miles. Altitude, 5,129 feet. Junction with Santa Fe, Prescott & Phoenix Railway to Prescott and Phoenix. Travelers who stop off at Ash Fork, en route to Prescott, and the Salt River Valley, will find located here the new Hotel Escalante. It is not only a pleasant place to stay at between trains, but attractive enough to warrant a longer sojourn. It is built in the old mission style, surrounded by wide verandas.

PRESCOTT, PHOENIX AND THE SALT RIVER VALLEY REGION.—Southward from Ash Fork stretches the Santa Fe, Prescott & Phoenix Railway, through Prescott to Phoenix.

Immediately below Ash Fork for a distance of twenty-five miles the Santa Fe, Prescott & Phoenix Railway leads through mountain scenery and then descends to Chino Valley, a grazing region, where alfalfa and small fruits are cultivated on the irrigated portions. At a distance of twenty-five miles farther on the road passes out of Chino Valley at Granite, from which point large



POINT OF ROCKS, NORTH OF PRESCOTT.

quantities of copper matte (impure metal smelted from the ore but not refined) are shipped to Chicago and New York from the United, Verde, Boggs and other copper mines which lie from twenty to twenty-five miles distant. A little beyond the road threads an extraordinary upheaval of granite forms, covering an area nearly two miles square, which much resembles in freakish character the Garden of the Gods in Colorado. This locality, known as Point of Rocks, was an almost impregnable lurking-place of Apaches in earlier troublous times in the history of the Territory, on whose account a military post was long maintained at Whipple Barracks, near by.

Prescott.—Distant from Ash Fork sixty miles. Altitude, 5,350 feet. Population, 3,559.

This prosperous city is the center of a vast mining country, in which gold predominates over other metals. Large herds of cattle find ample grazing in the adjacent valleys, and there, also, are many small segregated farms within a

radius of from ten to twenty miles. In nearly all the "draws" of the mountains are streams, such as the Lynx, Granite, Weaver, Hassayampa, etc., in the sandbars of all of which placer gold is found in paying quantity.

The summer climate of Prescott is delightful. Unlike the summer months in California, July, August and September



MESCAL QUARTZ MILL NEAR PRESCOTT.

here are visited by frequent rains. The winter is temperate. Light snow occasionally falls, but seldom remains on the ground for a sufficient period to afford sleighing. To this locality come, in the summer, the pleasure seeking residents of the more southerly and less elevated regions, to dwell in tents and cottages.

It is attractively placed upon a moderate hillside that dips to Granite Creek, and is girt with pines and cedars. Founded early in the '60s, it is one of the oldest of the towns of modern Arizona.

Southward from Prescott the Sierra Prieta Range is crossed at an altitude of 6,600 feet to Skull Valley, whose grim name is due to the large number of Indian skulls that long marked here the scene of a considerable conflict between the aborigines and the early Caucasian settlers, in which the latter were victorious. The valley is a dozen miles long, and affords grazing for many cattle. Placer gold is found on the surface of the high bars on the east side of this valley. Over a large area in this part of Arizona

placer gold is not uncommon, but is only fitfully worked by reason of the scant water supply. From Skull Valley the west slope of the Bradshaw Mountains and the Walnut Grove mining regions are easily accessible.

From Skull Valley, at an approximate altitude of 4,600 feet, the railway passes into Kirkland Valley, a basin of equal size. Here also hay and grain are raised in quantity, and large herds of cattle are concentrated from outlying ranges for shipment.

Bell's Cañon is the next point of interest. Here, more than a quarter-century ago, a Government paymaster was waylaid and slain by Apaches, thus bequeathing his name to the spot. Old Camp Date Creek, an abandoned military post, follows.

Ten miles beyond Date Creek the supply point for the Congress Mine and the Weaver and lower Hassayampa districts is reached. In the Weaver district is the far-famed Rich Hill, where a Mexican, searching for lost horses belonging to his employer, found a nugget of such size and value that legend has long since claimed it for its own and set its worth at a fabulous amount. Rich Hill became famous for its placer gold, yielding larger nuggets than any other camp in Arizona, but quartz ledges also exist in the vicinity. There was a considerable influx to this locality from California early in the '50s.

Twenty miles farther on is Wickenburg, supply point for the Vulture Mine and the Harquahala and Castle Creek districts; also junction for the Santa Fe branch railroad to Parker, on the Colorado River, 111 miles distant, via Salome and Bouse.

From Wickenburg the railway follows the course of the Hassayampa through Box Cañon, where the river is crossed, and a few miles farther on the Agua Fria Valley is entered. Twenty miles beyond the crossing of the Hassayampa is Hot Springs Junction, 106 miles from Prescott, and the point of divergence to Castle Hot Springs, twenty miles away.

Castle Hot Springs.—These springs are picturesquely located in the foothills of the Bradshaw Mountains of Central Arizona at an altitude of 1,971 feet. The winter climate is unrivaled, with a January temperature that averages 70 degrees; fog and dew are unknown, while the encircling mountains give immunity from dust. Swimming in the open pools may be indulged in any day in the year, with a choice of hot or cool water pools.

The vegetation is almost tropical, including the date palm, fig and orange trees. The springs, with a temperature of 115 to 122 degrees, have a flow of 400,000 gallons daily.

The "best graded roads in the west," which make a pleasure of the ride in a six-horse thorough-brace stage coach from Hot Springs Junction, also offer a tempting prospect for the automobile enthusiast, through scenery diversified by mountain, valley and cañon characteristic of this locality, under the glorious skies.

The Agua Fria, like all western rivers, is a capricious stream sinking from sight in many places during the dry season, and at other times swelling to a deep, turbulent cur-

rent which cannot be safely forded. It divides the valley that bears its name from that of the Salt River, the crossing being only twenty-four miles distant from Phoenix. There is no more wonderful garden spot in America, perhaps



SALT RIVER VALLEY FOLIAGE.

in the whole world, than the Salt River Valley. It contains hundreds of miles of modern irrigating canals, exclusive of lateral ditches. The Arizona Canal, which is 41 miles in length and 36 feet in width at the bottom, has a carrying capacity of 1,000 cubic feet per second.

Alfalfa, barley, wheat and vegetables are produced in immense quantity. The raising of horned cattle, swine, horses and mules is profitably followed. But the valley has found its greatest fame in its fruits. The orange, lemon,



POWER CANAL FROM ROOSEVELT DAM.

fig, date, apricot, peach, nectarine, plum, pomegranate, grape and a host of smaller fruits and berries grow in perfection.

The Roosevelt Dam, the pride of the United States Rec-

lamation Service, lies on the Salt River, 80 miles above Phoenix, at the junction of the Tonto River. This stupendous engineering project is reached from Mesa, over a mountain road of 60 miles length, built by the government at a cost of \$100,000. The road crosses the Superstition Range of Mountains, in constant view of Mount McDowell and Four Peaks and in sight of two battlefields of the Apache campaigns. The elevation changes more or less abruptly between 1,000 feet at Mesa to 3,000 feet at the highest points, yet, so perfect is the grade and so smooth the roadbed that the ruggedness of the route only "keeps automobiles from becoming too frisky," as the Indians say. The dam is placed at the mouth of a narrow gorge with hills on either side rising to a height of 1,000 feet. When completed it will form the largest artificial lake in the world, 25 miles long. A power canal constructed with the same solidity and permanency as the dam, carrying the water from the lake, will generate 4,400 horsepower, which will be used for all kinds of power purposes, including electric heating and cooking; the Pima Indians will utilize it in operating their irrigating pumps for getting additional water from the underground supply. In the work of construction 340,000 cubic yards of masonry are required for the dam alone, which is 284 feet high from the bedrock and 168 feet thick at the base, with a length of 235 feet at the river and 780 feet at the top. Hundreds of uncivilized Apaches have worked steadily on the dam alongside of white men, doing the same work for the same pay. A diversion dam is located at Granite Reef.

Phoenix.—Distance from Ash Fork, 197 miles. Altitude, 1,100 feet. Population, 5,544. Junction with Maricopa & Phoenix Railroad.

The capital of Arizona is situated in the center of the southern half of the Territory. It stands upon a gently sloping plain some two miles distant from the Salt River, and dates from 1872. The streets are regularly laid out

from north to south and from east to west, the latter being named for the Presidents of the United States, and the former being numbered; those upon the east of Center Street being known as streets, and those upon the west as avenues. The main streets are 80 to 100 feet in width, and many are pleasantly shaded by large trees. Water flows at the side of every street,

and a good water works system supplies domestic needs. Illumination is supplied by gas and by electric lights, which latter are used not only in the principal stores but in many private residences as well. There is a complete telephone



A BUSINESS STREET IN PHOENIX.

system. Street-car lines traverse the most important parts of the city. Among the business blocks the newest are pretentious in proportions and attractive in design. There are excellent public schools and churches, and numerous sectarian, charitable and secret organizations. Also daily and weekly newspapers, banks, factories and first-class modern hotels. The Territorial Insane Asylum is three miles distant.

North of the city is the Government Indian School, one of the three largest and most important in the service; it has an average attendance of nearly 1,000 pupils, representing thirty tribes, and its premises are the "garden spot of the Salt River Valley."

Tempe is a near neighbor of Phoenix, only nine miles distant. This is the site of several manufactories and a normal school.

Mesa City, a town of Mormon settlement, lies eighteen miles distant. It is actively engaged in the manufacture

of cheese, wine and brandy, and in fruit raising, drying and canning.

The climate of the Salt River Valley marks a high temperature in summer. In the arid West, however, the degree



ANOTHER VIEW OF GRAND CAÑON.

of heat shown by the thermometer does not necessarily indicate one's personal comfort or discomfort. To say that the agriculture of a given locality is dependent upon irrigation is only another way of stating that the air is dry and the precipitation of moisture slight. This means absence of humidity, which, quite as much as a high tempera-

ture, constitutes the unpleasantness of hot weather in localities where the rainfall is abundant and the air surcharged with moisture. The inhabitants of humid regions, in consequence, are accustomed to mount to physical discomfort in exact proportion as the mercury climbs its tube, and experience has taught them to associate misery with a high temperature. Such teaching is true only in the locality where it is taught. It becomes false under different conditions, such as are presented by a dry, pure, elevated air. Except in certain sunken basins, at or below sea level, it would be difficult to find in the entire West a locality which in hottest midsummer could afford the terrors which are well known to the cities of New York and New England. A land of almost perpetual sun, dog-days and sun-strokes are strangers here. It is distinctly a healthful region, the death rate being very low in spite of the fact that a yearly increasing number of invalids resort to Phoenix and vicinity. An almost total immunity from the diseases elsewhere common to children is reported. The county is free from malaria, and a record of two years shows only half a dozen cases of typhoid fever.

Seligman.—Chicago, 1,805 miles; Los Angeles, 460 miles; San Diego, 543 miles; San Francisco, 772 miles. Altitude, 5,247 feet.

Time changes one hour.

Peach Springs.—Chicago, 1,842 miles; Los Angeles, 423 miles; San Diego, 506 miles; San Francisco, 735 miles. Altitude, 4,780 feet. Dining station.

In the vicinity of this station dwells a tribe of Indians whose hillside "wickiups" are visible from the train. A wagon-road from Peach Springs to the Colorado River affords at the terminus a river-view instead of a rim-view of the Grand Cañon.

Hackberry.—Chicago, 1,867 miles; Los Angeles, 398 miles; San Diego, 481 miles; San Francisco, 710 miles.

The Hualapai and Havasupai Indian Agency is located

here. The Hualapais live principally at nearby stations, while the Havasupais reside at Cataract Cañon.

Kingman.—Chicago, 1,893 miles; Los Angeles, 372 miles; San Diego, 455 miles; San Francisco, 684 miles. Altitude, 3,326 feet. Population, 726. Branch railroad to Chloride, 26 miles.

A mining town. Rich mines lie behind the village, several miles distant among the hills.

THE COLORADO RIVER.—Next to the Columbia, this is the principal American tributary to the Pacific. The Spaniard Alarcon discovered it in 1540, and ascended a considerable distance from the Gulf of California by boat; and in the same year one of Coronado's lieutenants reached it overland



THE COLORADO RIVER.

from New Mexico. As a curious side light upon the blind guesswork that guided the discoverers of that period, it may be mentioned that Cabrillo, the discoverer of the California coast, in 1542, heard of this river, and sailed north as far as what is now the southern boundary of Oregon in search of it. In 1857

Lieutenant Ives made a lengthy exploration of it for our government, and near this point, about 450 miles from the mouth, encountered a numerous and warlike tribe of Indians, the Mojaves, who tilled these meadows and made their home in this locality. They were intelligent, almost gigantic in stature, and feared by other tribes. They are now reduced to a handful, of which enough will be seen at Needles Station, nine miles beyond the river crossing. The

cantilever bridge at this point is the second largest in America. Its clear span is 660 feet. Formerly the crossing was several miles above, over a pile bridge, but the treacherous, shifting nature of the stream compelled the railroad to build down here among the obelisks, where permanence is assured.

The rock spires upon the left are known as The Needles. The largest are taller and farther away than they look. They form the head of the beautiful Mojave Cañon, into which the river at once plunges. Lieutenant Ives' description of this cañon, upon the occasion when he forced the sturdy little "Explorer" through its rapids, is worth reading, although no convenient means has yet been afforded the tourist to look upon its splendors:

"A low purple gateway and a splendid corridor with massive red walls, formed the entrance to the cañon. At the head of this avenue frowning mountains, piled one above the other, seemed to block the way. An abrupt turn at the base of the apparent barrier revealed a cavern-like approach to the profound chasm beyond. A scene of such imposing grandeur as that which now presented itself I have never before witnessed. On either side majestic cliffs, hundreds of feet in height, rose perpendicularly from the water. As the river wound through the narrow inclosure every turn developed some sublime effect or startling novelty in the view. Brilliant tints of purple, green, brown, red and white illumined the stupendous surfaces and relieved their somber monotony. Far above, clear and distinct upon the narrow strip of sky, turrets, spires, jagged statue-like peaks and grotesque pinnacles overlooked the deep abyss."

Since the exploration of Lieutenant Ives a half century ago, the boat trip down the Colorado has been repeatedly attempted, the difficulties and fatalities attendant on the undertaking seeming only to have added zest to the endeavor.

The exploit has, however, been several times accomplished. The last successful expedition was completed as recently as February, 1908, when Charles S. Russell, of Prescott, Arizona, and E. R. Monett, of Goldfield, Nevada, arrived at Needles, California, in a small steel rowboat, having traversed the entire length of the cañons in their boats, embarking at Green River, Utah, in September, 1907.

The success of the trip is the more remarkable owing to the fact that neither Prescott nor Monett were experienced boatmen, but both practical miners, who proceeded leisurely down the river investigating opportunities for placer mining. They started in three boats with a companion, who left them after one boat had been wrecked in Cataract Cañon; their second boat was destroyed in the upper section of the Grand Cañon, and the third was wrecked in January in the rapid below Bright Angel. They stopped only for temporary repairs and pushed on till the voyage was successfully completed and they arrived at Needles early in February.



A TRAIN OF SURE-FOOTED CAÑON CLIMBERS.

CALIFORNIA.

PART II

HISTORICAL.—In the spring of 1542 two vessels were placed under the command of Juan Rodriguez Cabrillo, a Portuguese navigator of great reputation. The two vessels sailed from Navidad, a small port in Xalisco, Mexico, in June, 1542. They rounded Cape San Lucas, and proceeded northwest along the coast as far as the 38th degree of latitude, when they were driven back, and took refuge in a harbor of one of the Santa Barbara Islands. There Cabrillo died and the command devolved upon Bartolome Ferrelo. Ferrelo was a zealous and determined man, and he resolved to proceed with the expedition. He sailed toward the north, and on the 26th of February, reached a promontory near the 41st parallel of latitude, which he named Stormy Cape. On the 1st of March the ships reached the 44th parallel, but they were again driven south; and the men being almost worn out, Ferrelo resolved to go back to Mexico. He arrived at Navidad on the 14th of April, 1543. The promontory called Stormy Cape by Ferrelo was the most northern portion of California visited by that navigator, and it is probably the same which is now called Cape Mendocino.

From all accounts they had been able to collect, the Spaniards concluded that neither rich nor populous countries existed below the 40th parallel of latitude, nor was there any navigable passage between the Atlantic and Pacific oceans to be found in the same region. They, therefore, ceased to explore the northwestern territory for some time after the return of Ferrelo in 1543.

In the spring of 1579 California was visited by Sir Francis Drake, the English navigator, who landed on the shores of a

bay supposed to be that of San Francisco. He formally took possession of the country in the name of Queen Elizabeth, and called it New Albany. He left California on the 22d of July, 1579. In the spring of 1596 Sebastian Viscaïno, under orders



SIR FRANCIS DRAKE.

from the viceroy of Mexico, attempted to plant colonies on the peninsula of California, but the country was soon abandoned on account of the barrenness of the soil and the ferocity of the natives. Viscaïno visited the coast of Upper California in 1602, and discovered and named some of the places Cabrillo had discovered and named long before. The Port San Miguel of Cabrillo was named

Port San Diego; Cape Galera was named Cape Concepcion, the name now borne by it; the Port of Pines was named Port Monterey. This was the last expedition made by the Spaniards along the coast of California for more than a hundred and sixty years.

Few events worth recording occurred in California during the whole period of fifty years, from the first establishment of the Spaniards on the western coast till the termination of the Mexican war of independence. An attempt of the Russians to form a settlement on the shores of the Bay of Bodega, in 1815, was met with a remonstrance from the governor of California. The remonstrance of the governor was disregarded, and his commands to quit the place disobeyed. The



CALIFORNIA'S FIRST CAPITOL, MONTEREY.



PRESENT CAPITOL, SACRAMENTO.

Russian agent, Kushof, denied the right of the Spaniards to the territory, and the governor being unable to enforce his commands, the intruders kept possession of the ground until 1840, when they left of their own accord.

Before the commencement of the struggle for independence in Mexico the missions in California were, to some extent, fostered by the Spanish government, and supplies were sent to them regularly, but when the war began the remittances were reduced, and the establishments soon began to decay.



WHERE THE AMERICAN FLAG WAS FIRST RAISED
AT MONTEREY.

After the overthrow of the Spanish rule, in 1822, the territory of California was divided into two portions. The peninsula was then called Lower California, and the whole of the continental territory, Upper California. When the Mexicans adopted a constitution, in 1824, each of these territories became entitled to send one representative to the National Congress. At the same time, the adult Indians who could be considered civilized were declared citizens of the republic, and had lands given to them. This, of course, freed them from submission to the missionaries, who, thus deprived of their authority, either returned to Spain or Mexico or took refuge in other lands. The Indians, being free from restraint, soon sank to a low depth of barbarism and vice.

War was declared by Mexico against the United States in May, 1846. The same month orders were transmitted to Commodore Sloat, commanding the Pacific squadron, instructing him to protect the interests of the citizens of the United States near his station, and to employ his forces to the best advantage



OLD BARRACKS, MONTEREY.



FIRST JAIL, BUILT IN 1832.

in operations directed against the Mexican territory on the Pacific. The fleet under Commodore Sloat was the largest the Americans ever sent to that quarter, and the men were anxious to commence active operations. Soon after receiving his first orders the Commodore was again instructed to take and keep possession of Upper California; or, at least, of the principal ports.

By the treaty concluded between the United States and Mexico, in 1847, the territory of Upper California became the property of the United States. Little thought the Mexican government of the value of the land they were ceding, further than its commercial importance; and, doubtless, little thought the buyers of the territory that its soil was pregnant with a wealth untold, and that its rivers flowed over golden beds.

In the winter of 1847-'48 the whole world was thrown into excitement through the accidental discovery of gold by Mar-

shall, at Coloma, on the north branch of the American Fork River. This was not really the first discovery of gold in the Territory, for years before the precious metal had been mined from placers near San Bernardino, in Los Angeles County, but the



FIRST GOLD FIELDS.

amount was small and no excitement ensued. Marshall's discovery, however, resulted in a wonderful revolution. Business of every kind was neglected, and the ripened grain was left in the fields unharvested. Nearly the whole population of California became infected with the mania, and flocked to the mines. Whalers and merchant vessels entering the ports were abandoned by their crews, and the American soldiers and sailors deserted in scores. Upon the disbandment



PALM CANON,

of Colonel Stevenson's regiment most of the men made their way to the mineral regions.

The vast immigration to California which set in from all parts of the world resulted in a demand for the admission of the Territory as a State, and this was agreed to by Congress in the fall of 1850.

DESCRIPTIVE.

California is distinguished as a land peculiarly favored by nature, a fitting counterpart of the Promised Land, as it was ere the deserts were allowed to encroach upon its fertile plains. In fact, California is very like Palestine in natural features, resembling that country far more than it does Italy, to which it is so often compared. Like Palestine, it is a comparatively narrow strip of land, facing a western sea; it is shut off from interior deserts by high mountains, snow-capped in winter; it has its dry and wet seasons; it is a land "flowing with milk and honey," and in both countries flourish the olive, the fig and the vine, the grapes of Eshcol, which excited the wonder of the Israelites, finding their counterpart at any of the horticultural shows.

Variety is one of the noteworthy features of California. It is a succession of mesas and valleys, each possessing distinctive features of soil and climate, shut off from each other by rolling hills, dotted with oak and walnut, and backed by the majestic Sierra, pine-clad toward the summits, and occasionally snow-capped in winter, when the oranges are ripening and the heliotrope is blossoming in the valleys below, while from the foot of the snow-clad mountains to the sea shore is but a couple of hours' journey.

In its topography California includes the highest as well as the lowest land in the United States; valleys, the most beautiful and productive; deserts, dry and barren; elevated regions, where the rainfall is so great as to keep the slopes comparatively drenched; depressed spots, where from year to year hardly a cloud flecks the sky; mountains, steep, rugged, and Alpine in their glacial fields of ice and snow; plains, on which neither snow nor ice is known; wide bays, magnificent views,

picturesque lakes, the highest waterfalls in the world, the oldest forests, and the tallest trees.

Speaking in general, California is a parallelogram extending northwest and southeast, from latitude $32^{\circ} 50'$ to 42° north, a total length of about 800 miles, and an average width of about 200 miles. In area it is the second in size in the Union, containing 158,360 square miles, or more than two and one-half times the combined area of all the New England States. If California were transferred to the shores of the Atlantic her coast line would extend from Boston, Mass., to Savannah, Ga.



CLIMBING MT. SHASTA.

The two mountain ranges of the State exert an important influence upon its climate, which is here less a question of latitude than of altitude and distance from the sea. They start from a common origin, and run southerly over 500 miles, to unite again at the Tehachapi. Gradually separating, they widen to a distance of 140 miles from summit to summit.

The main range, the Sierra Nevada (saw-notched snowy) forms the eastern boundary of the State, and varies in general

altitude from 5,000 to 8,000 feet; it has 43 mountain peaks, among the highest of which are Mount Shasta, 14,511 feet high, and Mount Whitney, 15,860 feet, the highest mountain in the United States. Lake Tahoe and Yosemite Valley are among the other most distinguished features of the range. Along the western slope is the famous warm fruit belt, averaging 12 miles wide, within the limits of 300 and 1,500 feet altitude, and stretching from Shasta to Kern County.

The Coast Range, which follows the sea line and comprises a number of subordinate ranges, extends the entire length of the State. It varies from 2,000 to 6,000 feet in height and from 20 to 40 miles in width, the summit of the range averaging about 50 miles from the ocean. In this range are many valleys, some large, some small, but all exceedingly productive, and with the exception of those in the extreme southern portion of the State, irrigation is not necessary to successful horticulture.

The northern part of the State, above Redding, is mountainous, being formed by the junction of the Coast Range and the Sierra Nevada. It has many fertile valleys and wide plateaus. In the southern part of the State the Coast and Nevada ranges meet and break up into many ranges, having distinct names. The main body begins at the west line of Santa Barbara County and trends east and southeast. On the southern slope are sunny valleys, rolling hills, and mesas, constituting Southern California.

The San Joaquin Valley extends from the southern extremity in Kern County to the mouth of the San Joaquin River, nearly east of San Francisco. It is 240 miles long, with an average width of 45 miles, and contains about 11,000 square miles, or 7,000,000 acres.

The Sacramento Valley, the second largest in the State, is about 100 miles long, and extends from Red Bluff on the north to the mouth of the Sacramento River at its junction with the San Joaquin. It averages about 40 miles wide, and contains about 6,200 square miles, or 4,000,000 acres. It is

an unbroken plain, except where the Marysville buttes rise, in Sutter County, to a height of 2,000 feet.

Besides these two great valleys, innumerable smaller ones are found in both the Coast and Sierra Nevada ranges. These are usually well watered and exceedingly fertile, and are found at altitudes varying from ocean level to 8,000 feet or more of elevation, and varying in area from a few acres to miles in extent.



ONE OF THE BIG TREES.

The Santa Clara Valley is one of the most important in the State, both in size and fertility. It opens on San Francisco Bay, where it has a width of 20 miles, and extends in a southerly direction for about 70 miles, its southern end narrowing to a mile or less in width.

North of San Francisco, and opening on the waters of the harbor, are Sonoma and Napa valleys, each having a series of smaller valleys tributary thereto, and all being exceedingly fertile. Vaca and Capay valleys, opening into the Sacramento Valley from its western side, are small, but noted for early fruits.

In the northern portion of the State, Eel River and Hoopa valleys, of the Klamath and Trinity rivers, Scott Valley, in Siskiyou County, Surprise and Round valleys, in Modoc County, and Honey Lake Valley, in Lassen County, vary in length from 30 to 60 miles, and in width from 2 to 20 miles, the soil in general being deep and rich. From Plumas County a series of fruitful valleys stretches for 100 miles southeastward into Sierra County. In Alameda and Contra Costa counties are several valleys of great fertility, their nearness to the San Francisco market making them particularly desirable. The Alameda Valley, extending for many miles eastward from Oakland, contains a belt of excellent fruit land.

The Salinas Valley heads in San Luis Obispo County, runs north 100 miles to Monterey Bay, and is from 5 to 15 miles wide. The Santa Clara, in Ventura County, the Santa Maria, in Santa Barbara County, and the Arroyo Grande, in San Luis Obispo County, are all notable valleys.

South of the Tehachapi Mountains, which are formed by the junction of the Sierra Nevada and Coast Range, and included in the counties of Los Angeles, Santa Barbara, San Bernardino, Orange, Riverside and San Diego, are some of the most important and fruitful valleys in the State. The region is subdivided into the Los Angeles and San Bernardino plains, the chief agricultural region of the southern portion of the State, and the rolling hills, mesas, or tablelands, and small valleys of San Diego.

The Los Angeles and San Bernardino plains extend westward to the ocean, and along the coast for about 65 miles, being broken by a small range known as the Puente Hills.

Antelope Valley lies in the northeastern portion of Los Angeles County, and opens toward the Mojave Desert.

The San Jacinto plains extend from San Bernardino County southward into San Diego County, and form an extensive area, somewhat level in general character, but interspersed with numerous buttes. The western portion of San Diego County is covered with rolling hills and mountains, which are often bisected by numerous small valleys, both the mesas and the valleys being exceedingly productive.



PACIFIC COAST STEAMSHIP CO.'S STEAMER "QUEEN."

In the southeastern portion of the State is an immense plateau, beginning on the southern boundary line and extending northwest through the eastern portions of San Diego, San Bernardino, Los Angeles, and Kern counties, and over the greater portion of Inyo County. This region is known as the Mojave and Colorado deserts, is about 200 miles long and 100 wide, contains about 20,000 square miles and lies at an average elevation of 2,000 feet above the sea. It is comparatively destitute of vegetation, but responds to irrigation.

The coast line of California, which is 850 miles in length, or 1,200 miles following the shore, is studded with numerous roadsteads, bays, river entrances, and sheltered landings that furnish opportunity for a safe and cheap coastwise trade, besides possessing two harbors suitable for the largest vessels and at least two more that admit vessels of 16 feet draught.

In size, beauty and importance the lakes of California differ as widely as the climate of the valley regions differs from that on the summits of the Sierra. The total area of the lakes in the State is approximately given at 2,380 square miles, or 1,500,000 acres. Lake Tahoe, in Placer and El Dorado counties, is one of the most beautiful bodies of water in the world; its elevation is 6,247 feet above the sea, it is 22 miles long, 10 miles wide, and half a mile in depth. In Modoc County are three salt lakes covering 64,000 acres. Goose, Rhett, Clear, Klamath and Donner lakes have large areas. Lassen County has twenty-two permanent lakes, with an area of 94,000 acres; the largest being Honey and Eagle lakes, covering 27,000 acres. Clear Lake, in Lake County, is a picturesque body of water 25 miles long and 8 miles wide. Mono and Owens lakes are on the eastern slope of the Sierra. Tulare Lake, in Tulare County, is the largest lake in the State, having an original area of 160,000 acres, but now greatly lessened. In the southern counties of the State there are a number of lakes, but they are small in comparison to the bodies named. The soil about the lakes is generally fertile; the waters, except that of Owens and Mono, and the salt lakes of Modoc, are of crystalline purity, and abound with fish. The Coast and Sierra ranges boast of hundreds of gem-like lakes that give an added charm to the scenic features, and they all, together with the larger lakes, possess a high utilitarian value from the important influence they directly and indirectly exert upon the water systems of the State, and therefore upon many of its most important industries.

CLIMATE.—There is no State in the Union, no country upon the continent, no section of the country in any State, nor

geographical division of the continent that can compare with California in salubrity of climate, healthfulness, variety of pleasing shadings of climate, or attractive and health-giving summer and winter resorts. In December we have the sun shining a great number of days; the air is balmy, with people upon the streets in attire that could be worn in the East only in early summer and autumn. Winter in California is but summer without its hot days.

In all of California, and particularly along the coast, the winters are comparatively warm and the summers comparatively cool. This is due to the prevailing winds, which in winter come from the south and in summer from the north. The climate of California varies according to the longitude and altitude. Two factors enter into the formation of it—the Pacific Ocean, from which the winds coming through the Golden Gate bring moisture, and the Sierra Nevada Mountains, which cause the precipitation of the moisture.

The isothermal lines are, as they near the coast, so deflected as to run north and south, and mark out three climatic belts, which are the coast, valley and mountain. The valley belt,



FAN PALMS, SAN JACINTO.

beyond the Coast Range, commencing with Shasta Valley on the north, extends down through the Sacramento and San Joaquin valleys, into the arid plains of the Mojave and Colorado deserts; while the mountain includes the Sierra Nevada beyond. Rainless summers characterize all these regions. To these three climates may be added a fourth—Southern California, which includes so much of California as lies south of the junction of the Coast Range and the Sierra Nevada Mountains.

The coast climate is confined to that portion of California which "looks out upon the sea" from Point Concepcion, in



"THE OSTRICH," AT CYPRESS POINT.

Santa Barbara County, to the north line of the State. The annual temperature ranges from 45° to 60° . It puts one into an agreeable state of invigoration, and there is a sense of buoyancy and vitality experienced in few other climates.

The therapeutical effect of this climate, says Dr. John W. Robertson, is essentially tonic, and suited only to certain classes of invalids. That its healthfulness is mainly due to the wind cannot be doubted. This wind, besides possessing moisture and coolness, is surcharged with ozone, and much

of its influence is to be attributed to the oxidizing power of this agent. Persons coming to San Francisco from the interior valleys or the East are, at first, chilled by the cool, fog-bearing wind, but this chillness soon gives way to a feeling of exaltation and well-being that can scarcely be understood by those who have not experienced it.

This climate is susceptible to subdivision; the one just described being directly on the coast, the other, more moderate but of the same type, a few miles inland and protected by the foothills from the full force of the breeze. Such valleys, in close proximity to San Francisco, are the Livermore, Santa Clara, Napa and Santa Rosa valleys. In summer the thermometer may register 75° to 85° at midday, but such heat is exceptional. The mornings and afternoons are never sultry. During the winter frosts occur but rarely, and snow and ice are unknown. Still farther inland, in the very heart of the foothills, there is a region which should attract sanitarians by reason of its therapeutic usefulness. Volcanic products are here found in great abundance, and mineral deposits are frequent. Water trickling through these becomes impregnated with various salts, and emerges as springs possessing healing qualities. These springs are scattered all over the State. Hundreds are found throughout the Coast Range; but it is in Central California, among the foothills, that they abound.

The Sacramento Valley and the San Joaquin Valley may be said to be one valley, both as to geological and climatic features. From a given point opposite the Golden Gate the heat increases as we go either north or south. From Redding, in the northern end, to Bakersfield, at its southern, is a distance of three hundred and fifty miles. The mean annual temperature of Redding is 64° , with an average annual rainfall of 34.60 inches. Bakersfield has a mean temperature of 66° and an average rainfall of 5.14 inches. Sacramento's mean temperature is 60° , with an average rainfall of 19.53 inches; the latter place being about midway between the places above named.

The average rainfall of the Sacramento Valley ranges from 34 inches at Redding to 23 inches at Red Bluff and 19.53 inches at Sacramento. The San Joaquin Valley ranges from 13 inches at Stockton to 9 inches at Fresno, Leland 6.32 inches and Bakersfield 5.14 inches, showing a rapid falling off in the precipitation of moisture in the San Joaquin Valley as compared with that of the Sacramento. After leaving Bakersfield, in crossing the Tehachapi range of mountains, the rainfall naturally increases, on account of elevation, it being nearly 12 inches at Tehachapi and down to 5 inches at Mojave. The average at Los Angeles is 16 inches.



FOOTHILLS OF THE SIERRA NEVADA.

To the Eastern visitor the heat of these valleys in midsummer days seems oppressive, but to those acclimated presents no hindrance to continued labor in the open air. The dryness of the atmosphere produces rapid evaporation; therefore, laborers in the vineyards and harvest fields are cooled by the rapid evaporation of the perspiration from the body, which in the Eastern climate cannot take place because the air contains so much moisture that evaporation progresses slowly, a condition which is the cause of many sunstrokes to persons

exposed to the direct rays of the sun while working, but from which California is exempt.

While this section is the seat of the great cereal industry of the State, the equability of the climate is attested by the growth of citrus fruits at both the northern and southern ends of the valleys. Irrigation in the San Joaquin may in time modify the climate somewhat.

The foothills of the Sierra Nevada Mountains, up to a height of about 2,500 feet, have apparently the same temperature as



A BANANA TREE.

places in the valley in proximity to them. With increased elevation there is an increase of rainfall over the valleys. Sacramento, with an elevation of 35 feet, has an annual mean temperature of 60° and an average rainfall of 19.53 inches, while Colfax, with an elevation of 2,421 feet, has an average annual temperature of 60° and an average annual rainfall of 44 inches. This uniformity of temperature and increase of rainfall appears to be the law throughout the whole extent of the foothills of the Sierra, with this variation as relates to temperature,

viz.: As latitude is decreased the temperature of the valley is continued to a greater elevation. To illustrate approximately: If the temperature of Redding is continued up the foothills 2,000 feet, then the temperature of Sacramento would be continued up to 2,500 feet, and at Bakersfield up to 3,000 feet. The difference in temperature is so small that the character of the vegetation of the hills at each end of the valley is not dissimilar. The temperature of the valley prevails up the Sierra to an elevation that equals the height of the Coast Range of mountains.

Every agricultural product that can be grown in the valleys, including the semi-tropic fruits, can be grown with equal facility in these foothills. These lands are found to have all the requisites for the successful growth of orchards. Fruit trees thrive better upon them than on the lands of the valley.

We now come to Southern California, the climate of which is considered by residents of that section as being somewhat superior to that found in any other part of the State, or, indeed, of the world. The State extends, in the form of an irregular parallelogram, through 9 degrees of latitude, and is bordered throughout its length, on the west, by the Pacific Ocean, while on the other hand arises the grand mountain chain of the Sierra Nevada. Following the contour of the coast, sometimes close upon it and sometimes from 40 to 50 miles away, the Coast Range divides the broad valleys of the interior from the mesas and narrower valleys of the sea coast. The Sierra averages 8,000 feet in height; the Coast Range from 2,000 to 6,000 feet. In the neighborhood of 35° north latitude these two mountain chains are united by a spur, known as the Tehachapi range, nearly 8,000 feet in height, and all the portion of the country lying to the south, as far as latitude 32° 28', is thus shut off from the upper portion of the State by a natural and mighty barrier. The trend of the coast is steadily east of south. At Point Concepcion, in latitude 34° 20', it makes an abrupt turn to the east, continuing for 80 miles, and then resumes its general course southward. The Santa Ynez

range, from 3,000 to 4,000 feet in height, follows the same direction, completing the bar of separation, and to these peculiarities of topography are due certain conditions of the climate of Southern California, which are superior to those on the other side of the division. In coming from the north by steamer a marked change of temperature is noticed immediately after rounding Point Concepcion. The sea breeze has not that sharp quality which is trying at certain seasons in San Francisco. It has a balmy character, which makes existence itself a pleasure.

At a considerable distance from the coast the effect of the sea breeze is, in great measure, lost, and the climate becomes rather too warm in summer for comfort. Thus, we



STONY CREEK, GLENN COUNTY, IN THE GREAT SACRAMENTO VALLEY
FROM WHICH GOVERNMENT IRRIGATION SYSTEM WILL SECURE
ITS WATER SUPPLY.

may say that a line drawn from Point Concepcion to San Diego—about 250 miles—and extending back from the coast 40 miles, will include within its area the choicest climate of Southern California, say 10,000 square miles.

Every sensible doctor will tell his patients that the most effectual remedy—Nature's own remedy—for almost every disease is to spend as much time as possible in the open air. One reason for preferring California over other health resorts is that this course is possible all the year round. California affords more perfect days during the year for outdoor life, winter and summer, than any other place in the country. Florida has a charming winter climate, but the summers in that State are intolerable. Depressing heat and insect pests drive visitors north as soon as the summer commences, and as consumption, for instance, cannot be cured in a single season, sufferers are forced to look elsewhere for a sanitarium. Here days of cloudless skies come and go; summer glides into winter without perceptible effort, and the startling changes in the seasons, so dreaded in the East, are not noticed. Winter is heralded by a beautiful green on the hillsides after the first rain, the mornings, evenings and nights are cooler, but flowers are not injured, and the delicate hothouse rose bushes of the East, burdened with blossoms, are seldom touched by frost.

The winter season is marked by the rains, which come between November and April. This is really the spring, when the grass and flowers mantle the hills. Usually the rainstorms do not last more than two or three days at a time, with frequent spells of fine weather, lasting for ten days or more. The rainfall at Los Angeles for the past thirty years averaged about 16 inches, the lowest being 5.58 and the highest 38.13. Thunderstorms are very rarely experienced and cyclones are unknown. During the year an average of 316 days will be found with cloudless skies, or but a partial obscuration of the sun.

For a few days in summer the mercury rises high, yet, owing to the dryness of the atmosphere, 100 degrees of heat

is less oppressive than 80 degrees in New York. The cool trade wind from the Pacific is felt nearly all summer, and is the great modifier of the heat, rendering the hottest day bearable. In winter there is the modifying influence of a warm return current from the south, which, south of Point Conception, takes the place of the Pacific Gulf Stream, the Japanese current Kurisio, which sweeps down the Pacific coast. This explains why the water at Santa Monica has a temperature of 61 degrees in January, while that of Newport, at the same time, is 32 degrees.



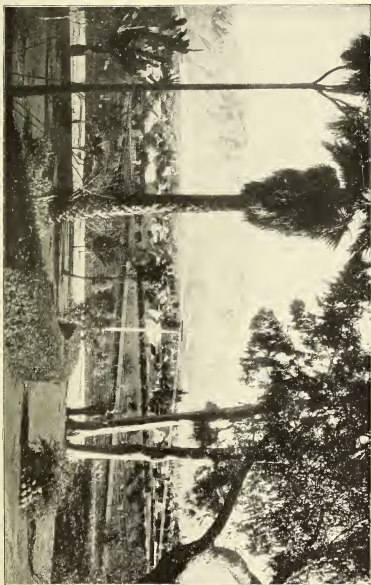
GARDEN OF CACTI.

A mistaken idea prevails among outsiders as to the amount of rainfall in California. The first rainfall may come anywhere from the middle of October to the middle of November. A south wind comes from the sea; clouds bank up to the southern horizon, and then about the mountain tops, and rainy weather, lasting for several days, follows, during which time the precipitation amounts to from two to three inches. This first rain may also give snow in the mountains, but not always, nor to any great depth. After three or four weeks of

pleasant weather comes another rain, much like the first, and this time generally with a decided snowfall in the mountains, as the temperature is now showing the winter coolness. These rains wash the atmosphere clear of haze and dust, and it now begins to display the remarkable transparency for which the winters of California are noted. Mountains a hundred miles away seem but ten miles distant. About the end of December we may get a heavier storm, with, perhaps, six to ten inches of rain, and heavy snow on the mountain peaks. January is generally an ideal month—a month of clear skies, with an atmosphere absolutely free from all impurities, cool and yet devoid of harshness, a warm sun flooding from morning to night plains that have the green of the early spring of other lands, the mountains covered with a mantle of pure white. In February another storm like that of December may be expected, then scattering rains of two or three days' duration, at intervals of several weeks through March and April, and the rainy season is over.

Another advantage of California's climate is the great variety which may be found within a small area. On the coast it is cool, almost cold, in summer, with some fog at night. Farther inland are low plains, which have an occasional frost, and belts where frost is never known, where the tomato ripens every month in the year, and the banana flourishes. Back in the small interior valleys are localities where the mercury in the middle of a hot summer day will range up to or above 100 degrees. This is a specially valuable peculiarity of California as a health resort. In Florida the highest elevation is about 100 feet above the sea. Here in California the invalid may start in the morning from the sea level; three-quarters of an hour by rail brings him to Los Angeles, several hundred feet above the sea, where the ocean breeze loses much of its force. Another three-quarters of an hour and Pasadena is reached, at an elevation of nearly 1,000 feet. Half an hour more and the traveler is at Altadena, some 2,000 feet above the sea level, whence a cable railroad and mountain trails lead to charming

SNOW AND PALMS.



glens and benches 6,000 or more feet above the sea. The traveler on Christmas day can breakfast by the waves of the Pacific Ocean after a refreshing dip in their briny embrace, lunch under the orange and banana trees, and dine, if he will, among the snowfields on the sides of the Sierra Madre Mountains, returning to sleep midst the fragrant gardens of beautiful Pasadena.

Invalids who wish to reap the full benefit of a residence in this section must take advantage of this variety of climate. A location that brings health and vigor to a person suffering from one ailment might only aggravate that of another. Thus, persons who have been living in malarious countries, with systems depressed by the dregs of fever, are especially benefited by a residence on the coast. The same may be said of victims of nervous disorders, including those who are suffering from insomnia. The salty, iodine-laden atmosphere of the coast forms a better and more effective sleeping draught than any that can be obtained at the drug stores, and, moreover, its effects are lasting. Sufferers from rheumatism and neuralgia should avoid the lower portion of the country, near the sea coast. Relief from these affections is found in the more elevated regions, where the air is warm and dry both night and day. The same remark holds good in reference to catarrh, asthma and bronchial affections, the highland and back country affording a very soothing and healing air, more favorable than the coast districts.

Dyspeptic troubles yield readily to an open-air life in California and the variety of fresh fruits which may be obtained here at all seasons of the year. Persons of delicate constitutions, who are unable to endure severe climatic changes, put on flesh and grow robust. Consumptives are particularly benefited by a residence in the pure, dry air. There is something in the atmosphere of the whole State which seems to be a bar to this disease. In the State of California the entire number of deaths by all diseases of the respiratory organs was recently reported at less than 10 per cent, of which more than half were

PLOWING ON A SAN JOAQUIN RANCH.

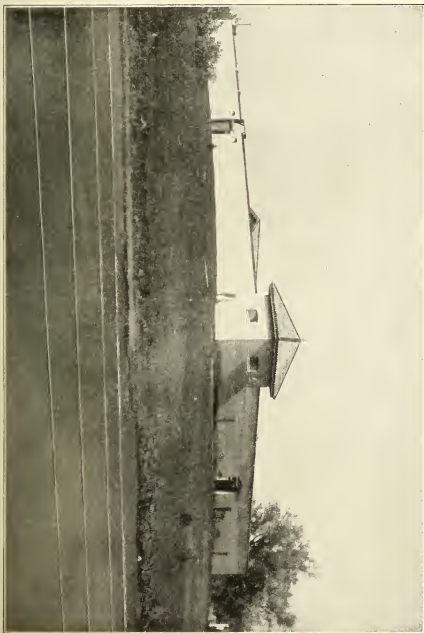


imported; whereas the same causes carried off 20 per cent in New York, 24 in Michigan, 27 in Maine and 29 per cent in Massachusetts. In hundreds of cases invalids make an entire recovery of health, and in other cases the disease is staved off and many years of life gained.

LAND AND WATER.—In the settled regions of California the best features of city and country life are combined. The farmer, throughout the greater part of California, is, to all intents and purposes, a suburban resident, and this becomes more true from year to year as railroads are extended throughout the country sections. The amount of land that is necessary to support a family in comfort is so small—not exceeding at the most twenty acres, and in many cases not more than ten, or even five acres—that wherever irrigation is practiced the country homes are close together, a section of 640 acres supporting from thirty to sixty families, instead of the four families who would make a precarious living on the average section east of the mountains. Thus, the families of horticulturists in California are within easy calling distance of each other, and are able to enjoy many advantages of social life that in the East only fall to those who reside in the cities or their suburbs.

It is, however, by no means only from this point of view that the lot of the California farmer is more attractive than that of his Eastern brother. Merely from a strictly business or financial standpoint the difference is most striking. If an eastern farmer has averaged a clear profit of \$5 an acre on 160 acres of wheat during the last few years he has been doing well. The same thing is true of the cotton growers in the South. This gives him \$800 clear as the result of a year's hard work. In California it is a poor horticulturist who does not manage to clear that amount of money from ten acres in fruits and berries and vegetables, with a cow and some chickens, meantime enjoying with his family all the delicacies of the season during twelve months of the year, with the social advantages above mentioned in the bargain.

It should not be supposed that a man can live without work



SUTTER'S FORT, ONE OF CALIFORNIA'S LANDMARKS, LOCATED WITHIN THE CITY LIMITS OF SACRAMENTO, THE BEAUTIFUL CAPITAL OF THE GOLDEN STATE.

in California. Those ambitious to do this would better seek the islands of the South Sea, where they may, perhaps, come near to accomplishing their purpose. California is no place for the man who is not willing to work, unless, of course, he is well provided with means. The work, however, is in every respect more pleasant than that which a farmer is called upon to perform in the East. To begin with, the climate, of which we have all heard and read so much and which is by no means a figure of the imagination, but a very solid fact, makes life itself a pleasure during the entire year. There may be a score of days during the winter when the rainfall is sufficient to drive the farmer to indoor occupation, but during the other 345 days of the year he may comfortably perform all kinds of work on his farm without any extra protection against the weather and without wearing a coat if he is of sound constitution. There are no blizzards, or snowstorms, or heavy frosts, and the shelter which he needs for himself and his animals is of the lightest and most inexpensive description. In fact, he may, if he wishes, live in a tent during the entire year, with advantage to his health. This, together with the social advantages which the farmer enjoys in this section, conduces to make his lot a very pleasant one, and it is no wonder that thousands of intelligent and enterprising men have been induced to enter the field of horticulture in California. There is no section of the world where the general intelligence of the farming community ranks so high as in this State.

A remarkable variety of soil is found in California. Within a few hundred rods—within the borders of a small farm—may frequently be found three or four distinct varieties of soil, adapted to the raising of a dozen varieties of products. In the lower valleys the soil consists of a rich alluvium, deposited by streams in past ages, varying according to the amount of sand or clay it contains. Here and there are found streaks of this description of land tinged with alkali, and unfit for agriculture until it has been reclaimed. On the mesas there is much soil composed of débris washed from the mountains, mixed with

vegetable accumulations. This makes an excellent fruit soil. There are also some sandy clay soils on the mesas. A very large area is composed of a rich sandy loam, with water at from five to twelve feet from the surface.

Leaving the mesas, we come to the rolling and table lands, where the water is twelve feet and more below the surface. This land is warm, rich, sandy soil, free from all except occasional frosts. Here in sheltered locations may be raised successfully all citrus fruits. Irrigation is used, either from surface streams or with water raised by means of windmills.



IRRIGATION AND ITS RESULTS.

Next come the foothills, the true home of the citrus and all semi-tropical fruits. Much of this land is entirely free from frost. The soil is largely composed of granite débris. With water for irrigation, this land is considered the choicest in California and commands a high price.

The subject of irrigation is a bugbear to a majority of Eastern farmers. There is a settled idea among them, which it is very difficult to remove, that the necessity for irrigation is a

drawback. This, however, is quite a mistake. It is not necessary to tell anyone who has resided in California, even for a brief period, of the benefits of irrigation. They are too manifest. Land that was worth 50 cents an acre has by the expenditure of from \$10 to \$20 an acre in the construction of irrigation works become worth \$250 per acre and more, while flourishing cities have sprung up where twenty years ago the coyote roamed among the sagebrush and cactus.

The fact is, that the artificial supply of water in arid regions is an advantage. The water supply can be regulated, and when the true needs of each cultivated plant shall have been discovered a uniform maximum of productiveness will be attained, such as is not possible in a region whose water comes directly in the form of rain.

Horticulture is not the only industry that is benefited by irrigation. The desirable points of a more certain crop and of a larger yield are just as certainly secured with corn and alfalfa as with oranges and apricots. Stock raising is greatly benefited by irrigation, as pastures are kept green and fresh, and great crops of hay are produced. Alfalfa, the great forage crop of this section, is made to give from five to eight cuttings in a season, which aggregate a tonnage that it would be impossible to secure under ordinary conditions. Almost every product known to our agriculture will not only yield more, but will give greater returns above the cost of production.

One of the greatest proofs of the value of irrigation lies in the fact that no farmer who has once practiced it would willingly go to farming in any district where he would have to depend on the natural rainfall. He knows that the labors of half a year will not be rendered fruitless because of a week's drought. The farmer in an irrigated region does not have to wait for rain in order to plow, to sow or to cultivate. He has the elements and the seasons practically under his control.

In some cases water is sold outright with the land, when the settler only has to pay a nominal price for the expense of keeping the ditches in order. In other cases, where water is not

purchased with the land, a charge averaging \$5 an acre per year is made for it. Land with water, of course, brings a much higher price than land to which no water supply is attached.

One of the first objections which the average Eastern immigrant makes to California is the asserted high price of land. The new arrival will sometimes hold up his hands in horror when asked from \$150 to \$250 an acre for horticultural land. "Why," says he, "I can take my pick of good farms back where I came from for \$20 an acre."

That may all be, and still the Eastern farm at \$20 an acre may be dearer than the California land at \$200. It looks so, certainly, or there would not be so many people seeking to make the exchange.

But the land is not all held at \$100 to \$250 an acre. If you are satisfied with raising such products as are raised back East—cereals and vegetables and deciduous fruits and dairy produce and hogs and honey and hay—supplemented by raisin grapes and olives, you may get good land within easy distance of railroads and close to schools and churches, at prices ranging from \$10 to \$50 an acre, in quantities to suit and on easy terms. On the other hand, if you want to live in the suburbs you must pay from \$500 to \$1,500 an acre.

There is no section of the United States—there are few sections of the civilized world—so well adapted to the development of the small farm as is California. Indeed, California is an ideal region for the small farm. Twenty acres of irrigated land is all that one man can possibly take care of in fruit, and that will keep him busy, if it is properly worked. In some cases men find that it takes all their time to attend to five acres of orchard and berries and vegetables, with a little alfalfa for the cow and chickens, and many families make a good living from that amount of land, which in the East would be regarded as a mere garden patch.

In this connection it should be mentioned that one of the most profitable investments capitalists can make in California is in purchasing and subdividing large tracts of land. It might

be supposed from what has been written on the subject in the Eastern press that almost every acre of Southern California is already marked with the surveyor's stakes. Such is far from being the case. Spanish grants, embracing in the aggregate hundreds of thousands of acres of as fertile soil as the sun ever shone upon, remain untilled and almost unpeopled, in as pristine a condition as when the Spanish missions were the only centers of civilization in the country. These lands are capable of growing all the long category of products which have made

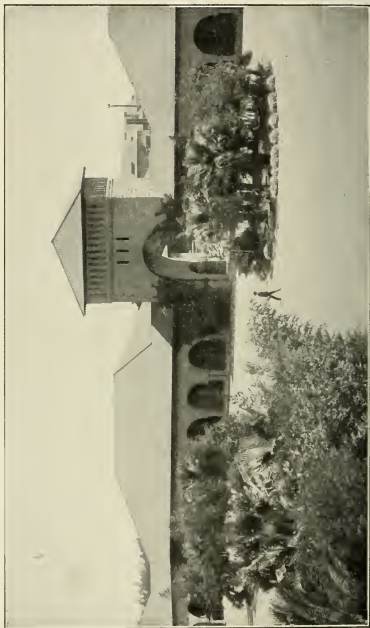


IRRIGATING AN ALFALFA FIELD.

California the wonder of the horticultural world. In most cases water is near enough to the surface and the rainfall sufficient to grow everything except citrus fruits, alfalfa and vegetables, without irrigation. There is no thick growth of timber, needing the work of a lifetime to remove it. The land is ready for the plow. Tickle it with a hoe and it will smile into a bounteous harvest. The owners of these ranches are, in most cases, not only ready, but anxious to sell at moderate figures. On the other hand, thousands of land-hungry men are ready

to purchase on moderate terms and make for themselves and their families homes. Such ranches can be purchased at wholesale for from \$20 to \$40 an acre. In tracts of ten to twenty or forty acres, on easy terms of payment, they can be readily sold at from \$75 to \$150 an acre, with 7 or 8 per cent interest on deferred payments. The work of surveying, mapping and placing on the market should not cost more—for large ranches—than \$5 an acre at the outside. Then the subdivider can reserve a section for a town site, lots which will come into healthy demand as the surrounding tracts are settled. This should bring in enough to cover all expenses and leave a balance for roads and other improvements. Is 100 per cent good enough on an absolutely safe real-estate transaction?

A popular method of settling land in California, which has met with much success, is the colony plan. These colonies are made up either here or in the East, among persons who are acquainted with each other, generally being residents of the same section. Each settler owns his ten, twenty or forty acres independently, but by purchasing the land at wholesale in a block a great saving is effected. The settlers can also co-operate in purchasing supplies, piping water, canning, drying and otherwise preserving fruit, making olive oil, and marketing their products. Besides all this, they have the advantage of social life from the start, with schools, churches, library, store, postoffice, etc., which might otherwise be long in coming. Several of the most important cities and towns in California were started in this manner. Care should be taken to distinguish between a practical enterprise of this character and those wild schemes of socialists and other enthusiasts which occasionally come to the front. No colony enterprise in which the settlers have been called upon to sacrifice their individuality or the sanctity of family life has proved permanently successful, nor can it be expected that any such enterprise will ever meet with success as long as human nature is constituted as it is at present. A practical colony idea aims at coöperation in every direction where many can do better than one—in the purchas-



LELAND STANFORD, JR., UNIVERSITY.

ing of trees, implements and other requisites, the planting of orchards and vineyards, the canning and drying of fruit, and the marketing of the crops. In this manner 100 settlers with a capital of, say, \$1,000 each, are placed on an equality with the capitalist who has \$100,000, being able to purchase in the cheapest market and sell in the dearest.

The impression prevails widely throughout the East, not only that land in Southern California is all very expensive, but also that, in a general way, this is no section for a poor man. The idea is an erroneous one. The man who has but little means can now buy land on remarkably easy terms; in some cases no cash at all, or only 5 per cent, being required down. With what money he has he can put up the light buildings needed in this climate, purchase a cow and some chickens, and with the returns from these, supplemented by such odd work as he can always obtain from the neighbors, may make a living until his potatoes and corn and alfalfa and small fruits come in. Then he can gradually plant out his tract to fruit trees, and at the end of five or six years, provided he practice industry and economy, he may sit under his own vine and fig tree and smile at fate. The man who has not enough means to pay for the necessary improvements and stock may rent a tract of improved land for a year or two, either for cash or on shares. He will thus gain some money and experience at the same time.

Several years ago Gen. N. P. Chipman, of Tehama County, in the northern part of the State, one of California's veteran horticulturists, published a statement showing the conditions under which a settler in the State of Iowa, where Gen. Chipman formerly resided, might move to California. The figures hold good to-day, with some slight modifications. Staple crops are chosen in each case, in which there is about equal risk. Estimates in regard to groceries, clothing, dry goods, boots and shoes are left out, as the prices are nearly the same in both States. Gross products are given, from which allowances can be made for losses which may be expected to come in to cut down profits.

It is supposed that the settler from Iowa buys land in California, where roads, schools, churches, etc., are as good as those he left.

Farm animal values compare as follows:

	In California.	In Iowa.
Horses	\$63.60	\$72.70
Cows	27.75	19.79
Swine	4.91	5.94

In Iowa he sells:

160 acres of land at \$30 an acre.....	\$4,800.00
4 horses at \$100 each.....	400.00
20 cows at \$30 each.....	600.00
10 brood sows at \$6 each.....	60.00
10 dozen chickens at \$3 a dozen.....	30.00

Total\$5,890.00

In California he buys:

40 acres of land with irrigation at \$100 an acre.....	\$4,000.00
2 horses at \$100 each.....	200.00
10 cows at \$30 each.....	300.00
5 brood sows at \$7.50 each.....	37.50
10 dozen chickens at \$4 a dozen.....	40.00

Total\$4,577.50

Allowing the \$312.50 for moving leaves \$1,000 in the bank.

In Iowa the 160 acres were divided as follows: Forty acres pasturage, forty acres corn to feed, ten acres ensilage, twenty acres corn to sell, ten acres hay, forty acres oats to sell. Income in a good year was about:

From 20 acres of corn, 50 bushels an acre, at 25 cents..	\$ 250
From 40 acres of oats, 60 bushels an acre, at 18 cents..	432
From 20 cows (cream).....	680
From 50 fat hogs, 250 pounds each, at 4 cents.....	500
From 10 dozen hens, 1,000 dozen eggs, at 8 cents.....	80

Total\$1,942

After all reasonable expenses are deducted a good balance is left, and many would say he was foolish who left so good a thing.

The writer goes on to show, however, that forty acres in California devoted to peach trees, with peanuts planted between the rows, and eight acres of alfalfa, should yield the first year \$2,468 more than 160 acres in Iowa. In addition to the advantages of climate and society the farmer has had just half the cows to milk, half the horses to work, half the hogs to care for, half the crop to cultivate, half as much work to get three crops from eight acres of alfalfa as to harvest the forty acres of oats and ten acres of hay in Iowa, just about half the running expenses, and a chance to lay up nearly twice the money.

The second year the farmer will do about the same. The third year he will have less crop between the trees, but the fruit will more than make up for the difference. The fourth year he should have a considerable crop of fruit, and the fifth year a full crop, when his forty acres under good management should yield him a gross income of at least \$4,000 a year, or more than twice the proceeds of the 160 acres in Iowa. This is a moderate estimate. Three times that amount has been made in some instances from peaches, apricots, prunes and other deciduous fruits.

Hundreds of incidents might be cited of men who have come to California with little or nothing beyond a pair of hands and a determination to succeed, and who within a few years have acquired a comfortable home, free from debt, which insures them a good income for life.

As stated above, twenty acres of irrigated land is as much as one man can properly attend to in California, and ten acres is sufficient to make a good living on, when the most intelligent methods are adopted. To make a success of such a tract "intensive" farming must be practiced. Not a rod of ground must be wasted. Between the orchard trees annual crops and berries should be raised, at least until the trees attain a large size. In this manner a full supply of fruits and vegetables may



VINEYARD SCENE ON THE LATE SENATOR STANFORD'S CELEBRATED VINA
RANCH IN THE SACRAMENTO VALLEY, KNOWN AS THE
LARGEST RANCH IN THE WORLD.

be had for a family, as well as corn fodder and beets for the horse and cow. If the family is small there should be a surplus of butter and eggs for sale, together with occasional sales of peanuts, potatoes, beans, tomatoes and other vegetables to insure success. Everything that can be turned into manure must be saved. A well-cared-for flock of hens is a great assistance to settlers on a small farm. Indeed, many of those who have started with next to nothing and made a success in California say that they would never have been able to get along were it not for the chickens.

There are, of course, some few drawbacks to life in this section. It is not claimed to be entirely perfect, although Californians do maintain that it approaches nearer to perfection than any other section of the United States, or perhaps of the world. Referring to some of these most frequently heard complaints a resident of Iowa recently wrote as follows to his home journal:

"There are a number of disagreeable facts about this country, it is true, among the most important ones being the dryness in summer time, the dusty roads, the heat and the water.

"The first, everyone claims, is a good thing, for, after you once destroy the weeds, you are through with them till the next winter. And, they argue, if it rained through the summer the weeds would grow so fast it would keep everyone busy destroying them.

"The roads are often very dusty in summer, but not much more than they are during dry spells you have in Iowa. Besides, unless you drive right behind another rig the dust won't bother you much.

"Third, I feel confident I am right when I say the thermometer never registers here higher than it does in the East. And even when it is hot here it is not near so oppressive, and, if one is in the shade, the cool ocean breeze makes it delightful.

"The water direct from the hydrant by no means compares with what you have in Keokuk, but if it is set out in an earthen

jar over night it becomes cool and stays so all the next day when kept in the shade.

"You hear of people who have failed to make a living here. I have seen them, too, and I also saw their land and orchards. Why didn't they succeed? A look at their dilapidated houses and barns and orchards will answer the question. They expected everything to take care of itself, and they rightly say they are a failure here. And let me add they will continue to be a failure wherever they go.

"This is written for the unambitious person. The days of wild speculation are over for the present, and one must not expect to make a fortune in a few years here. Some do it, but a few also do it in Iowa and the Eastern States."

In conclusion, the following facts are given, which will be of interest to readers who think of removing to California:

Rain falls in winter, but seldom for more than three or four days at a time, the intervals being warm and sunny. The average rainfall for the year is eighteen and three-quarter inches.

All productions of Eastern and Northern States can be grown here, besides those of semi-tropical and many of tropical countries.

All crops except citrus are successfully grown without irrigation, although many crops do better with it.

One man can care for twenty acres of bearing orange orchard. The necessary experience is easily acquired. Insect pests are kept in check by ordinary attention and diligence.

Small fruits and other crops can be raised between orchard trees while they are growing.

Ordinary agricultural land ranges in price from \$10 to \$100 an acre; good deciduous fruit land, without irrigation, from \$25 to \$100, according to quality of soil, climatic conditions and proximity to town and railroad; citrus land, with water, \$200 to \$400 an acre.

Improved farm property can be bought all the way from \$50 to \$500 an acre. Easy terms can generally be obtained on part of the purchase price.

There are many thousand acres of cheap lands and relinquishments of government claims to be had, but they are comparatively far from markets and more or less mountainous.

Land can be rented for grain or hay at \$2 to \$5 an acre; for vegetables and fruits, where water is supplied, at \$10 to \$25. Land can also be rented on shares, generally for a third of the crop. Improved places, with buildings, may also be rented at a reasonable rate by the year.

The average wages of farm hands are \$20 to \$30 and board.

It does not pay to ship bulky household goods and farming implements to California.

The population of California is largely Eastern, representing American enterprise, stability and refinement. Lectures, entertainments and social reunions are numerous, and all the leading social orders are fully represented. There is nothing of the "wild and woolly West" about California.

The ideal homes of the whole world are to be found in California, where profitable production and beauty are combined.

Don't leave all your warm clothing behind when you come to California, as the nights are very cool in comparison with the days.

PRODUCTS OF THE SOIL.—The products of the soil that are raised in California are so numerous and the conditions under which they are grown so varied that it is impossible to give more than a brief outline of them. The intelligent Eastern reader of these lines who thinks of engaging in practical horticulture will naturally seek the experience of those who have been engaged in the industry for years, as well as such practical information as may be gathered from the few handbooks that have been published on the subject. All that will be attempted here is to give the reader a general idea of the great actual and prospective value of the crops that are raised and can be raised in the fertile soil of California.

What the gold mines were to the State in 1849, that are the orchards and vineyards of California to-day, with this difference, however, that for every man who came to the State to



ORANGE GROVE.

find gold fifty years ago, a dozen families come now to find wealth in the soil by cultivating luscious fruits. Horticulture is and will undoubtedly remain the leading industry of California.

Horticulture is the oldest industry of which we have any knowledge, the first man having been, according to tradition and holy writ, a horticulturist. Few dwellers in the less-favored climes of the Eastern States have any conception of the important rôle which this industry plays in the economy of the



PINEAPPLE FIELD.

world. The growth of some of the most populous and wealthy countries of the Old World has been based upon horticulture and viticulture. The chief income of the Mediterranean countries, occupying a similar latitude to Southern California—Asia Minor, Greece, the Ionian Islands, Italy, Southern France, Spain and Portugal—is derived from their exports of oranges, lemons, figs, olives, olive oil, dates, raisins, dried prunes, chestnuts, preserved fruits, wines and brandies. The United States imports annually over \$15,000,000 of fruits and nuts, all

of which, in quantity to supply the United States, may be grown within the limits of one California county, and in addition thereto, all the wine and brandy consumed in this country, with a large surplus for export. Horticulture, therefore, furnishes a pretty solid basis for a large population, apart from the other numerous resources.

Fruits are at home in California. They seem at once to take kindly to the soil and climate, no matter whence they are brought. In the early days—during the '50s—there were only a few inferior varieties of grapes and oranges grown in this



APRICOT DRYING PLANT.

section. The Mission grape was about the only variety raised in California at that time. There were a few old orange trees in Los Angeles County, around the missions, introduced by the Catholic fathers a century ago. The success of these led to others being planted, and so the orange industry has increased until the present day. There are seedling pear trees at the missions a hundred years old. The first grafted-fruit trees were brought to California in 1851, 1852 and 1853. Fruit trees at that time were expensive, and the fruits were sold at

enormously high prices—from \$1 to \$2 a pound. As time passed, more fruit trees were planted, nurseries established, the price of trees and fruits diminished, and before railroads reached the coast the price of fruit was not remunerative, orchardists lost their interest in fruit-raising, and it was some years before fruit was shipped East with profit.

About twenty years ago a Chicago firm commenced to ship fruit East in large quantities. Others soon followed. At first it was a great thing to ship a whole carload of fruit. Now one or more solid trainloads leave daily during the season. Twenty years ago Californians used to talk about fruit-growing being overdone. It was in danger of that as long as they only raised a little, but now that they are beginning to ship it by the trainload the market has only commenced. This may seem to be a paradox, but it is perfectly easy to understand. As long as the product is small, it is not sufficiently attractive for merchants to compete for it. Growers, therefore, had to depend on a small local demand, but when the production of fruit runs into figures which mean in the aggregate millions, the whole world of commission merchants is ready to get a share of the handling of the shipments.

California has little to fear from competition in the line of fruit-growing. Leaving out of consideration the citrus fruits, what country that produces those fruits can raise in profusion and perfection the apple, pear, peach, apricot, nectarine, prune, plum and other fruits and nuts? In this State may be seen growing in the same orchard the orange, lemon, pear, apple, peach, apricot and almond; also the strawberry and small fruits, as well as the best grapes that grow anywhere, with more tons to the acre than in any other portion of the world.

An idea of the importance of the horticultural industry in California may be gained from figures published by the State Board of Trade, showing shipments of fresh fruit, canned fruits and nuts out of the State recently amounted to nearly 50,000 carloads. Shipments of oranges alone for the year 1901 amounted to considerably more than 21,000 carloads.

Yet it may safely be said that the horticultural industry of this State is still in its infancy. With the increased yield of existing orchards and the large area of new orchards planted during the past five years, we may expect to see a still greater increase during the next five years.

For several years after the fruit industry in California assumed importance the growers were almost entirely dependent for a market on commission merchants, who acted as middlemen between the growers and the dealers in Eastern cities. In consequence the commission men had things pretty much their own way. They grew rich and sometimes arrogant, while the producers often became poor and despondent. However, it was evident that among such an intelligent class of people as the fruit-growers of California this state of affairs could not last long. They came together in various sections of the State and established associations for the coöperative packing and shipping of their fruit. Among the leading associations of this character is that of the Southern California Fruit exchanges, with headquarters in Los Angeles and branch offices in the leading centers of orange production in Southern California. They handle oranges and lemons exclusively. In Santa Clara County there has been for several years an important association which handles the large dried fruit crop of the Santa Clara Valley. In Fresno County the raisin-growers have recently formed an association. The walnut-growers of the Los Nietos Valley, in Los Angeles County, have had an association in successful operation for several years. These associations have proved of great benefit to the growers and others will be formed from time to time until the entire fruit industry of the State shall be well organized.

The benefits of such organization have already made themselves apparent. Not only is the fruit of more uniform quality and true to name, thus arousing confidence among Eastern dealers, but a large saving is made in the cost of packing and handling it, while at the same time the Eastern markets are opened up in an intelligent manner, whereas formerly com-

mission men were sending several carloads at once to a point which could perhaps only consume one carload, thus fighting each other with the growers' own fruit. A careful study is now made of the markets, and fruit is ordered by telegraph to points where it can be sold.

Under such conditions it would be difficult to overestimate the possibilities of the horticultural industry in this section, especially when it is considered that there are millions of persons in the East to whom California fruit is scarcely known, except by name.



A TYPICAL CALIFORNIA HOME.

Foremost in importance among the horticultural products of California is the orange. Apart from its commercial value, the orange has undoubtedly done more to advertise California and to attract settlers than all other productions together. There is something romantic in the very name of an orange grove which exercises a great charm on those who have been raised in the more sterile and colder regions of the country. Probably two-thirds of those who come to this section for the purpose of engaging in the horticultural industry come with the intention of raising oranges, although many of them

change their minds after investigating the expense and labor attached to the industry.

The first sight of an orange grove is sometimes a disappointment. The trees have somewhat of a hard and stocky appearance, being carefully trimmed, and bearing some resemblance to large laurel trees, one being as much like the other as is a company of soldiers. There are, in truth, many more graceful trees in this section than the orange. An orange grove is seen at its best in winter, when laden with the golden globes that shine out from the dark green foliage. Such a scene is greatly enhanced in attractiveness should there be a snow-capped mountain in the background.

As to the financial side of orange-growing, the profits are good enough, year in and year out, to satisfy any reasonable person, but the trouble is that a large number of unreasonable persons come here to engage in the industry. They have been taught to believe, or have gained the impression, that all a man has to do is to buy an orange grove, sit under one of the trees, and make a fortune in a few years. This is far from being the case. There is a considerable amount of work to be done in connection with raising oranges. The ground must be frequently cultivated and irrigated and the trees kept free from scale and other pests. If the owner does not do this work he must see that it is well done, as very much depends upon the care given to the orchard, when it comes to reckoning up the profits at the end of the season. It frequently happens, in the case of two men with orange orchards alongside of each other of the same size, the trees being of the same size, of the same variety and of the same age, that one will make a big round profit, while the other will scarcely do more than cover the expenses of cultivating and interest. It does not need an expert to tell when an orange grove has been well cared for, or otherwise. Even a "tenderfoot" will notice the difference at once, although he may not know the reason for it.

Los Angeles County has about one-fourth of the orange

trees in Southern California. The fruit comes on the market from January to April, being later than the Florida crop. The most popular variety is the Washington navel, which brings the highest price of any orange in the markets of the United States. The seedling sells for less money, but produces larger crops. The Mediterranean Sweet, St. Michael, Valencia Late and Malta Blood are also largely grown. The best soil for oranges is a deep, rich, sandy or gravelly loam. The best seasons for planting are spring and early summer, when the buds are starting. Budded trees are generally considered in profitable bearing at five years from planting, and seedlings at eight. The crops increase steadily for at least fifteen years. A seedling at eight years will yield from three to five boxes. The orange tree lives and bears for centuries. The cost of trees is less than it was a few years ago. The following estimate is made by a leading nurseryman of the cost of planting a budded grove of ten acres and caring for it three years:

Trees (85 to an acre), at 35c.....	\$297.00
Preparing land and setting.....	90.00
Care per year, \$20 per acre.....	600.00
<hr/>	
Cost at end of three years.....	\$987.00

One man can care for twenty acres of bearing orange orchard. The necessary experience is easily acquired.

The chief orange-growing sections are the San Gabriel, Azusa and Pomona valleys, in Los Angeles County; Riverside in the county of that name, and Redlands in San Bernardino County. Oranges are also raised in Butte County, in the northern part of the State, and in Tulare County.

Southern California at present has no serious competitor on the American continent as an orange-growing section, the Florida groves having been devastated by a severe frost which swept over that State a few years ago.

The lemon has been cultivated in Southern California, to some extent, from the earliest days, but it is only within the

past three or four years that it has been produced on a commercial scale. During the last five years a large area of land has been planted to the lemon, and the production may be expected to increase rapidly from now on.

Special attention has been paid to lemon culture since methods of curing the fruit have been adopted. Formerly the fruit was allowed to ripen on the tree, and the skin in consequence became thick, so that dealers formed an unfavorable opinion of California lemons. The curing of the lemon is a



LEMON TREES.

simple operation, consisting of storing of the fruit on trays in a dry, well-ventilated room. They may be kept in this manner for months. No two growers observe quite the same rules in curing their fruit, and there is still much to learn in this direction; but a good beginning has been made, and California lemons are already much sought for in the East. The lemon is generally supposed to be more sensitive to frost than the orange, although this is denied by some growers, who say

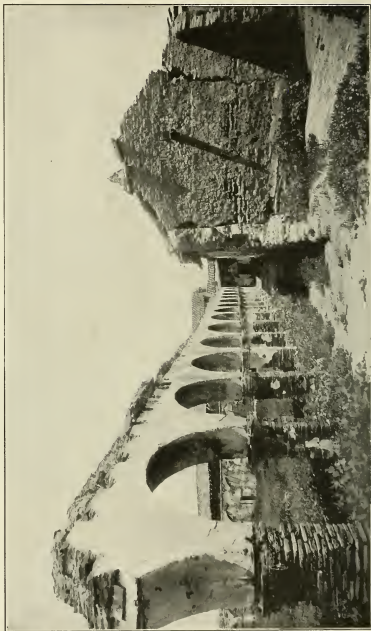
that after the tree has become well rooted it will stand as much cold as the orange. However this may be, it would be a very poor plan to plant a grove in a locality where there is much danger of frost.

The lemon will thrive on the mesas, at an altitude of 100 to 200 feet above sea level, where frosts severe enough to damage it have never been known. There are thousands of acres of such land in Los Angeles County. It has been customary to grow lemons on orange roots, the orange being a hardier stock than the lemon, but some authorities claim that the lemon deteriorates in budding upon orange stock, becoming too large and less acid. Seedling lemons have had their day. The only lemons worth cultivating are the choice budded varieties. The Lisbon is the greatest favorite, followed closely by the Eureka. The Villa Franca has also many admirers. The methods of planting, cultivating, etc., are similar to those pursued in the case of the orange.

The lemon-growing industry is less likely to be overdone than that of the orange, the area of possible production being much smaller. There are large profits in the business for the man who goes into it with judgment, perseverance and capital. The lemon is a staple product, lemon juice entering largely into manufactured products in citric acid and other forms. Los Angeles County could easily supply the United States with lemons.

The principal lemon-growing sections of Southern California at present are along the coast region of San Diego County, at Ontario in San Bernardino County, at Whittier in Los Angeles County, and in the foothills of the Cahuenga Valley, west of Los Angeles.

The lime will grow in Southern California with the same culture as the lemon and orange. It is a dwarf tree or shrub, according to training, and bears a small fruit, about one-half or one-third the size of a lemon, and is strongly acid. Very little progress has been made in the culture of this fruit in Southern California. Some years ago a number of trees were



RUINS OF SAN JUAN CAPISTRANO.

planted, but the location in many instances was unsuitable, and the trees, being susceptible to frost, were mostly killed. Other trees, planted higher up in sheltered localities, have borne well. No systematic effort has been made to improve the quality of limes grown here. Enough has been done to show that lime culture can be made a success, but at present the Mexican product is superior to ours, and, being imported in large quantities and at low prices, practically drives California limes out of the market.

The pomelo, or grape fruit, is a variety of the citrus family that has been cultivated for some years in Florida, and has become very popular in the Eastern states, where it is largely consumed under the belief that it is a specific for diseases of the digestion. The frost recently destroyed the trees in Florida, and it will probably be some time before the market can again be supplied from that source. There are a few bearing trees in California which have yielded large returns. The tree bears early, and should pay well at current prices.

Another citrus fruit which has been almost entirely neglected in Southern California is the citron. It grows on a large bush or tree. It is largely used in confectionery in this country. Some of the home-made citron offered for sale in Los Angeles is fully equal in flavor to the imported article. It has not the bright green appearance of the European citron, but that is said to be due to a mineral dye which is unwholesome. A good many citron trees have been planted during the past two years. There is room for a large extension of the industry.

The olive has always been considered one of the most valuable trees known to man. Among the ancients it was regarded with almost religious veneration. The tree is distinguished for its great longevity and vitality. A tree in the garden of the Vatican at Rome is said to be 1,000 years old, and other trees in the Holy Land are yet older. The chief revenue of Italy is derived from its olive oil, after having been adulterated with American cottonseed oil sent to Italy for that purpose. Italy

produces 70,000,000 gallons a year. California-grown olive oil, known to be pure, is hard to obtain, even here, and its high price confines the consumption chiefly to medical purposes.

The olive will grow upon the rich plains, but in such location it attains an abnormal wood growth at the expense of the richness of its fruits. The quality of the oil will likewise be affected. Its fruit corresponds to the soil where it is planted. In rich and moist land it gives a heavy and fatty oil; in warm and dry soils the oil will be finer.

It is generally considered that irrigation is not good for the olive, if grown for oil, and a rainfall of fifteen inches is enough. The trees need plenty of sunshine. They should not be crowded, as poor crops and diseased trees result.

The machinery and appliances for picking the olive and making oil are simple. Both operations can be finished in a very short time, and they are so easy that no grower with ordinary cleanliness and care can fail to succeed. The picking can be done gradually from November to March. By allowing them to dry in the barn, weeks may elapse before the oil is extracted. Moreover, if the grower does not desire to crush and press the berries himself, he can ship them in sacks or boxes to any distance at a moderate rate of transportation, considering the value of the product. The gathering of the olive is also easy work. The berries that have fallen to the ground are first picked, then the tree is shaken and the branches struck with long poles to cause the rest to fall. When the oil is made the residue is used for fuel, manure or feed for horses and cattle.

Another advantage possessed by the olive is that there are not many insect pests to trouble the tree, in proportion to those which prey upon other fruit trees. The black scale is the only one that has proved troublesome so far in this section, and that only in moist regions near the coast. The tree will stand a considerable amount of frost. While it answers

readily to careful culture, it will stand an amount of neglect that would prove disastrous to almost any other fruit tree.

Those who only know of olives from the green bitter fruit imported from Europe can form no conception of the delicious flavor of the ripe berry, which is an important article of food to millions of people in the South of Europe.

The chief center of olive culture in California is at Pomona, where there are some large nurseries which export young trees to all parts of the coast. A number of improved European varieties have been introduced during the past few years, yet there are still many who maintain that the old Mission variety, introduced by the early Catholic priests, can hold its own as a useful variety both for pickling and for oil. Some of the imported varieties begin to bear within three years of planting. As much as two gallons of berries have been gathered from trees four years old. The yield increases for an indefinite time, and, as stated, the trees live for centuries.

Until recently there was much complaint among California olive growers in regard to shyness of bearing and some of them began to be discouraged. Last season, however, the trees yielded an immense crop and the outlook for the industry is now excellent.

Among the fruits which are especially adapted to California and are very profitable, because they can be successfully grown in few other places, is the apricot. Canned apricots will always be in demand. The dried apricot is, perhaps, the best dried fruit we have. Evaporated California apricots command the best prices in the markets of the world. California is one of the few sections of the world that can raise this luscious fruit. The tree needs a light, friable soil, and does best within range of the sea breeze. At four years from planting it will yield from fifty to seventy-five pounds; at five years, 100 to 150 pounds; at six years from 200 to 300 pounds. The apricot is raised in all sections of California, but seems to do exceptionally well along the coast. A specialty is made of this fruit in Ventura County.

One of the most important and profitable fruits raised in California is the prune, increasing shipments of which are made East from this section every year. California prunes are rapidly displacing the imported article in Eastern markets. The prune grows best in heavy sedimentary soil. Trees are planted from twenty to twenty-four feet apart. The wider distance is better. After picking, the prunes are dipped in weak lye, dried and graded according to their size. Land adapted to prunes can be bought at from \$50 to \$150 per acre.



MOJAVE DESERT YUCCAS.

A grower estimates the following expenses: Preparing ground, \$5 per acre; planting, \$2.75 per acre; care and cultivation, \$7.50 per acre; pruning, \$1 the second year, \$2 the third year and \$4 to \$5 the fourth year; spraying, 75 cents the second year, \$1 to \$1.25 the third, and \$4 to \$5 the fourth. The profits of prune

culture have been large. Trees are worth about \$20 per 100.

A variety of fruit which has not yet received the attention it deserves is the fig. This is in a great measure owing to the fact that it is only within the last three or four years that the right varieties have been planted. Like most of our early fruits, the blue fig was found growing at the missions by early settlers, and for years it was the only variety propagated. Though excellent for home use, it is not a good dryer, and the lack of any substitute led to the culture of the fig being much neglected. Several varieties of white figs have since been introduced, including the White Adriatic and Brown Smyrna, which, when properly dried, are equal to the imported article.

Now that it has been well established that the fig can be raised successfully in California, a great increase in the acreage

devoted to that fruit may be expected. Almost all the soils and locations are suited to it, from the valley to the foothills. The warm, dry alluvial soil and climate of the interior valleys and foothills seem best adapted to its growth and curing. It will succeed on lands too dry for other fruits, and on rich, moist bottom lands, if they are well drained. It seems to do best in the foothills at an elevation of from 500 to 1,500 feet above the sea. The trees should be planted from 26 to 32 feet apart, and the spaces between filled with grapevines and berries, to be taken out when the figs require all the space.

The yield of fig trees is enormous, and they begin to bear at an early age. Trees that yield from 600 to 1,000 pounds are not uncommon, which, at 6 cents a pound for dried fruit, is a pretty good bonanza for the grower. There is practically no limit to the amount of figs that can be disposed of at good prices, when prepared by crystallization, or dried in a manner to compare with the imported, or made into preserves. One reason why fig culture has not been more developed is that growers have not, until recently, succeeded in curing the fig to compete with the imported variety. While the flavor of the home-grown fig is often fully equal, it is not so in appearance. One of the chief drawbacks of the California fruit, when cured, is that it is generally more or less hard, whereas the European fig imported to this market is uniformly soft, and consequently more palatable. The recent importation to Fresno of an insect known as the blastophaga, which fertilizes the fig blossom, has resulted in producing a variety fully equal in flavor to the imported fruit.

In no section of the United States can peaches be raised superior to those grown in California. The different varieties are gathered in great quantity during four months of the year. The trees bear very early, frequently yielding a considerable crop of fruit the second year after setting out. It is on record that ten acres of seven-year-old trees have produced forty-seven tons of fruit. The expenses of planting and caring for peaches are about the same as for apricots and prunes, vary-



A YOUNG ORANGE ORCHARD IN THE RICH SACRAMENTO VALLEY.

ing a little according to the character of the soil and the amount of preparation that has to be made. Large quantities of peaches are dried and shipped to the Eastern market, so that the growers do not have to depend for a market on the sale of fresh fruit. The drying of the peach is an inexpensive process, easily carried on by the grower himself.

The nectarine is a delicious fruit, with a red, red and green or white skin, varying in size from that of an apricot to that of a small peach. It is a cross between the peach and the plum, and by many is preferred to any other fruit raised here. The nectarine is also dried. It is raised under similar conditions to those which prevail in growing the apricot.

Pear trees of many varieties bear early, yielding large crops of fine-flavored fruit. The Bartlett is a favorite variety in this section and is shipped East by the carload in a fresh state. The pear needs a deep, rich soil to do well. There are thousands of acres of such soil in the valleys of California. The trees are quite hardy in this section, and the expense of cultivation and care is about the same as for other deciduous fruits. Pears are a favorite fruit when dried, and there is a good demand for them in this shape.

Apples do well in the higher mountain regions and near the coast. Good prices are always obtained for them in this section. A yield of twenty-five tons from three acres of ten-year-old trees is reported, the fruit selling at 3 cents a pound. Apple trees one year from the bud are worth at present about \$15 per hundred. Expenses for planting and care are the same as for other deciduous fruits.

In the early days of California the grape was the chief fruit raised, most of the product being utilized for the manufacture of wine and brandy. The low price of wine that prevailed during several years had a depressing effect on this industry and many vineyardists began to turn their attention to other fruits. During past few years, however, owing to a combination among the grape growers in the northern part of the State, prices were considerably advanced, and the outlook for

the industry is now better than it has been for a long time. Prices for raisins have also been very low for some years, but there has been an improvement in this industry also.

Many varieties of the grape are grown for table use and the manufacture of wines and brandies. Raisin grapes are raised on an immense scale in the San Joaquin Valley and some other sections. For table use the Black Hamburg, Muscat, Champagne and Flaming Tokay are favorite varieties. Some varieties ripen as late as November. For raisins the Muscat of Alexandria is grown. Usually about six hundred and eighty cuttings are planted to the acre. The cost of planting, irrigating and two years' care of a raisin vineyard is about \$25 per acre. In three years the vineyard should yield fifty twenty-pound boxes of raisins per acre; in four years, 150 boxes; in five years, 200 boxes, and after that a small increase. The cost of cultivation per acre is \$15; curing and packing, 40 cents per box.

The English walnut is a profitable fruit in California. Of late several soft-shell varieties have been introduced, which bear much earlier than the old sorts. There are several walnut groves in Los Angeles County which have netted their owners \$200 per acre from year to year. The walnut prefers a moist, rich soil. No crop is more easily gathered than the walnut, and it is ready to be gathered after all other crops are in. The Lowney and Los Nietos sections of Los Angeles County are specially suited to the walnut. Los Nietos walnuts always bring a high price.

The almond is a tree which has been somewhat neglected in California. It does not flourish everywhere, appearing to do the best in the higher mountain regions. To insure success in the cultivation of the almond it is necessary to have a light, well-drained soil and a location removed from the coast winds and fogs. The methods of planting, cultivation, etc., are almost identical with those for the peach. The almond bears in four years from planting and brings a good price.

Few fruits grown in California offer possibilities of greater

gain under favorable conditions than the cherry. It was formerly supposed that the cherry could not be successfully raised in Southern California, but recent experiments in San Diego and San Bernardino and other counties have shown that this is not the case. Still, nearly all the cherries raised in the State are from Central California, the leading sites of the industry being in Santa Clara and Alameda counties.

The guava is a delicious fruit, with a flavor like a cross between the strawberry and the black currant. It grows on bushes, and has been hitherto generally planted between or-



IRRIGATING AN ALMOND ORCHARD.

chard trees. Guava jelly, made from the yellow variety, is celebrated the world over.

Strawberries and blackberries bear enormous crops during many months of the year. They are sometimes grown between orchard trees. The chief strawberry growing sections of Southern California are at Gardena, Glendale and Azusa in Los Angeles County. At Watsonville, in Santa Cruz County, over 2,000 tons are produced annually and the other sections are proportionately productive.

Among other fruits that are grown on a limited scale are the Japanese persimmon, the loquat, or Japanese plum, and the pomegranate. The banana ripens in a few sheltered localities. It is not grown for the market, except on a limited scale in Santa Barbara County. Melons yield enormous crops and fruit from early summer until late in the winter. Melons weighing 100 pounds have been raised, and those weighing 50 pounds are common. Pineapples are successfully raised in the Cahuenga Valley, Los Angeles County.

The raising of winter vegetables for shipment to the North and East is becoming an important industry in Southern California. Among the principal vegetables raised for winter shipment are tomatoes, sweet peas, string beans and chili peppers. There are several belts along the foothills of Los Angeles County where there is scarcely any frost. In these districts such vegetables are about the most profitable crop that can be raised. Among the most noted warm belts are the Cahuenga Valley, Eagle Rock Valley and the foothills around Glendora, in the eastern part of the San Gabriel Valley.

The chief attention of settlers in California has been devoted to horticulture, and the growing of what may be termed "bread and butter" crops has been much neglected. For this reason, such products as hay, vegetables, butter, chickens and eggs fetch good prices all the year round, and the raising of them offers special inducements to industrious men.

In spite of the fact that so many fields have been transformed into orchards and vineyards, there are still some large grain fields in California. The quality of the barley and wheat raised in California is very fine, ranking high in the markets of the world. An advantage which the grain raisers in this section have is the short distance to a harbor, whence grain can be shipped to any part of the world. On some large ranches wheat has averaged a yield of a ton to the acre. About 1,300 pounds is considered a good average. Wheat land is often rented, the man who takes the land paying from one-third to

one-fourth of the crop, according to whether the land is bare or has buildings.

Barley is an important crop in California. As a food for animals it here takes the place which is held by oats and corn in the Eastern States. Most of the California barley is grown in the southern part of the State. Grain is never irrigated in California. Large quantities of wheat and barley are cut for fodder while green. This, with alfalfa, constitutes the hay crop of California.

The corn raised in California astonishes Eastern people. The stalks sometimes grow to a height of over twenty feet.



A CELERY FIELD.

One hundred bushels to an acre is not considered an extraordinary yield in sections that are especially adapted to the crop. Corn is sometimes irrigated, but much is grown without irrigation. Egyptian corn is raised as a fodder plant and as food for chickens.

Alfalfa, which is largely grown for hay, is a most valuable forage plant. Once planted, it needs little care, except plenty of water for irrigation after each cutting. Two crops may be cut the first year, and after the third year from three to six or more crops, yielding from one to two tons to the acre at

each cutting. Animals are pastured in the fields and also given rations of cut hay.

During the past few years the raising of sugar beets and the manufacture of beet sugar has become a most important industry in California, more detailed reference to which will be made later on.

Staple vegetables of fine quality, such as potatoes, onions, cabbages, cauliflower and celery are raised in large quantities and are shipped East by the carload. Pumpkins have been raised that weighed over 300 pounds.

In the early days of California immense herds of cattle and horses roamed over the hills. Of course, when it was found that land which was worth \$2 an acre for grazing would pay interest on \$20 an acre in grain farming, and when it was afterward found that it would pay interest on \$1,000 an acre in fruit, the flocks and herds had to make way and move into sections where land was cheaper.

California is, however, as well adapted to stock-raising as it ever was. Here the thermometer rarely sinks to the freezing point, and here are none of the disastrous northers which play havoc with the cattle of the Western States and Territories. Stock can graze in the open fields the year round, and no expensive housing or winter feed are required. Moreover, as the system of the animal is not called upon to endure the rigors of a cold climate for a good third of the year, it stands to reason that it more readily lays on flesh. Animals here, like the evergreen trees, plants and flowers, keep on growing all the year round. A noted Eastern breeder who has investigated this country thoroughly declared that he believed cattle and horses would put on 20 per cent more weight in a given period of their growth, and with a given quantity of feed, than they would in the East.

The cattle and sheep still remaining in California are in the thinly populated sections among the hills and mountains, not suitable for agriculture, or in valleys which the plow has not yet invaded. A superior system of stock-breeding has

taken the place of the long-horned steer and the "bronco" horse on the plains. It has brought the Jersey and Guernsey, the Shorthorn, the Polled Angus and the Hereford breeds of cattle and, in horses, the trotter, the thoroughbred runner, the Percheron, the Clydesdale and the English coach horse.

There are several noted stables and California thoroughbreds have made their mark on the Eastern turf. There are thousands who believe that California will soon rival Kentucky in raising fine horses, and Eastern racing men are talking of wintering their horses in this section.

An impetus has been given to the raising of hogs by the establishment, a few years ago, of pork-packing factories, which furnish a cash market. The pork made in this section is declared by packers to be superior to that which they handle in the East. Hogs can be raised on alfalfa and "finished off" on corn or barley.

A few years ago most of the butter and cheese consumed in California was imported from the East. A considerable amount of butter is still imported, but new creameries are being constantly established, and it looks as if California would soon be self-supporting, as far as dairy products are concerned. Cows do well here on the nourishing alfalfa and root crops. The industry, when conducted by those who understand their business, is a profitable one, and there is room for considerable extension.

Poultry-raising in California offers great inducements to industrious men of small means. Carloads of eggs and poultry are still frequently imported from the East. It has been claimed that poultry is difficult to raise in this climate, but the fault seems to be that sufficient care is not bestowed upon it. Those who have gone into the business in a thorough manner and devoted their attention to it have done well. One of the main points to be attended to in this section is the supply of green food during the dry summer, which may be done by means of a patch of alfalfa.

Bee-keeping is quite an important industry in California.



CALLA LILY FIELD—10,000 BLOSSOMS.

Most of the bee ranches are in the mountain cañons or in the foothills, which abound with flowers and shrubs, from which the bees extract honey, foremost among which is the white sage, from which the finest honey in the world is made. Bee-keeping is a light and healthy industry, particularly adapted to those who are in feeble health. Many persons who come to California as invalids have obtained both health and a competence on a bee ranch.

In the foregoing brief mention has been made of the leading branches of horticulture and agriculture in California. One might fill a page with a mere mention of other crops adapted to the soil and climate of some or all of the valleys and mountains of California, which crops have not yet been raised on a commercial scale, or perhaps not at all.

The growing of seeds for Eastern nurserymen has been essayed with much success at several points. They say that seeds raised in this section are superior to all others handled by them. Small beginnings have been made in the manufacture of perfume from flowers. The eucalyptus or gum tree is raised for fuel, the trees being cut down to within two feet of the ground every five years, when they spring up again with amazing rapidity. The camphor tree flourishes here and might perhaps be grown for its gum. Camphor is imported to this country to the value of nearly \$3,000,000 annually. The introduction of ramie, which produces a fiber very similar to silk, and largely utilized in the manufacture of silk fabrics, has been suggested. The banana and pineapple ripen, as above stated, in a few favored sections. The guava and the loquat, or Japanese plum, are becoming popular, and half a dozen other varieties of tropical fruits may be seen in the fruit stores. There are several ostrich farms, which find a profitable market for feathers. Silkworms are raised on a small scale. Large quantities of pampas plumes have been raised and shipped for decorative purposes, but the demand has fallen off during the past few years.

Sufficient has been said to give the stranger an idea of the



DRYING PEACHES.



STACKING ALFALFA.

wonderful versatility of the soil and climate of California and of the great possibilities which exist here for a farmer who mixes brains with his work.

THE BEET SUGAR INDUSTRY.—It is almost beyond human comprehension that the world produces annually about 80,000,000 tons of sugar, but even a more startling statement is the one that the United States consumes a third of this immense quantity. Still another fact for which many readers are not prepared is the excess of beet sugar over cane sugar. The former is comparatively so recent a product that it is difficult to realize that it surpasses the cane product. The world's production of cane sugar for 1895 was 3,125,000 tons, while that of beet sugar was 4,975,000 tons. While the United States consumed 2,148,000 tons of beet sugar in 1895, it produced but 33,000 tons. The conditions since have been changing steadily with the increased production of beet sugar, the principal States in the industry being Nebraska and California, the latter having come into the lead in the past few years, while the industry is yet in its infancy.

The growth of the beet sugar industry in California is shown by figures compiled by the State Board of Trade, from which it is learned that the total production of beet sugar in California has increased during the past dozen years from 1,910 tons to over 35,000 tons today. There are beet sugar factories in the northern part of the State at Watsonville, Alvarado and Salinas, the last-named being the largest in the world. In the southern part of the State there are factories at Chino, Los Alamitos and a very large one at Oxnard, in Ventura County, also a smaller factory at Santa Maria, in Santa Barbara County.

The lands adapted to beet growing are the lower valleys, possessing alluvial deposits and freely sub-irrigated by underground streams. Such land is found in abundance through Orange County, through the southern part of Los Angeles County, along the coast in general and in certain localities along water courses.

The sugar beet is white, and ranges from three to six inches in diameter at the top, from which point it tapers gradually, being from six inches to two feet in length. The average crop is about eleven tons per acre, and the average sugar percentage is about fifteen. The prevailing price for beets is \$3.50 per ton for 12 per cent beets, with 25 cents per ton added to each per cent of sugar above the standard. The richest beets grown stand to the credit of Ventura County, where the average from all farmers for a full year is 18 per cent, valued at \$5 per ton. The returns to the farmer range from \$40 to \$75 per acre for the average year, while, with the assistance of boys in thinning the beets, one man can care for about sixty acres. Under these conditions the net profits from the crop are large, for the average grower with good soil. Much of the land on which beets are grown is held in large tracts and is rented to the farmers for from \$8 to \$10 per acre a year, though many farmers own their own land. It thus becomes possible for the man of small means to get a foothold in the business. The majority of the owners of land at Chino started with very little capital, and have succeeded in paying for their land in the course of from five to eight years, though not without some self-denial.

The experience at Chino has illustrated the fact impressed on farmers in every other part of the world, that rotation of crops is essential for success. For a series of years the same land was used in the growing of beets. It became apparent that it would be necessary to combine some other industry with that of beet-growing, and the ideal companion industry has been found in dairying. The beet pulp, after the extraction of the juice, makes an excellent food for cattle, increasing the percentage of butter fat and keeping the cattle in fine condition. This food is kept by the factory in silos, and is sold to the farmers for the almost nominal price of 40 cents per ton. This wonderfully cheap feed makes possible large profits from the dairy business, while the growing of alfalfa for a couple of years and plowing it under adds greatly to the plant

food. The farmers are very generally entering into this industry in connection with beet-growing, and an era of greater prosperity than ever before experienced is promised.

In Orange County, where the growing of beets is a newer industry, no settled policy has yet been adopted, though the extensive dairy interests of that section warrant the belief that the same course will in time be followed there.

In Ventura County the industry is rapidly tending to supplement bean-growing to a degree. The large section of beet land about the new sugar factory has been about the most important bean center of the United States.

From the standpoint of the factories it would appear, from what little is known to outsiders, that the industry is conducted with great profit. It is said that a factory with a capacity of 700 tons of beets per day requires a capital of about \$850,000, and that it should turn out in the course of a season's "campaign" of 100 days, 8,400 tons of white granulated sugar, on which a profit of 1 cent per pound would amount to \$168,000. It seems, however, that this estimate of the profits of sugar-making is very conservative. Granulated sugar can undoubtedly be produced at a profit at 3 cents per pound from sugar beets, and, as the world's consumption of sugar is increasing at the rate of 243,000 tons per annum, and as the United States is producing but a trivial portion of the sugar it consumes, there is no reason to doubt the immense field which is open for this industry.

OSTRICHES.—An industry that always interests new arrivals in California is the raising of ostriches, which is conducted on a commercial scale at South Pasadena, on the electric railroad from Los Angeles to Pasadena, where may be seen a hundred birds in all stages of growth.

A number of years ago Dr. C. J. Sketchley, an Englishman, invested some capital in an ostrich farm in South Africa. The trade was practically in the hands of a few monopolists, who had about \$4,000,000 invested in Cape Colony alone, and as much more in Orange Free State, the Transvaal

and Natal, from all of which places it was estimated that \$7,000,000 in feathers was sent out yearly all over the civilized globe, one-half coming to this country, on which we paid a duty of 25 to 50 per cent for raw and dressed feathers. Zulu raids and troubles with other natives seriously interfered with the new project, and finally Dr. Sketchley decided to inspect other countries, believing that there was no reason why the ostrich could not be successfully reared out of its native land. After much investigation Southern California was selected for a trial of the experiment; its peculiar climate—a temperate



FLOCK OF OSTRICHES IN ACTION, SHOWING FEATHERS TO ADVANTAGE

one—with semi-tropical features, and possessing a corresponding latitude, or very near to that where the business had been so successfully carried on, being all in its favor. A stock company among San Francisco capitalists was organized, and the Southern California Ostrich Farm Company, with a paid-up capital of \$30,000, became a reality.

It is evident that African dealers, while they have little faith in the American venture, would not encourage any movement that would be likely to interfere with their control of the business, and to this end they formulated rules and laws tending to discourage any outside ventures. In brief, these

were to raise the price of birds intended for export to \$1,500 apiece, and to keep up the price. In November, 1884, the Government imposed a duty of \$500 on every bird of any age taken from the country, thus legalizing an export duty, and \$125 on each egg. This would bring the price of two breeding birds at \$4,000.

These obstacles did not deter Dr. Sketchley nor prevent the inception of the movement, and 22 fine breeding birds were purchased and safely shipped and delivered at Anaheim.

The color of the young birds is brown in general effect, and the hen remains of that hue. The cock, as he nears maturity, turns a deep, glossy black, with a row of pure white plumes among those of jet. Down the front of each leg is a stripe of brilliant red, and a ring of the same color surrounds his big, savage eyes, for the cock ostrich is a ferocious creature at times, and even the hens must be handled with skill. As fast as the birds pair the couple are confined in a paddock about an acre in extent. The hen begins to lay soon after the rains come, one egg every other day until the nest—a careless excavation three feet across, scratched in the sand—contains anywhere from 8 to 15 eggs, according to her humor or her ability to count.

The cock does the principal part of the labor of setting. Every afternoon, exactly at 4 o'clock, he relieves his mate, and never quits the nest until 8 o'clock next morning, thus giving the female a short watch of only eight hours of the twenty-four, and all daylight at that. The practice, however, is to remove the eggs to an incubator as fast as laid, and in that case the hen will lay as many as 25 or 30 before taking a rest. This method of using incubators has its advantages and disadvantages. If the eggs are taken from the hen daily she will lay from 25 to 30, and as many as 90 in a season, in three distinct lots. The eggs are laid every other day, and as each egg weighs about four pounds and measures about 16 by 18 inches in circumference, the total egg weight of a good layer at the end of a year is 360 pounds. Think of 20 birds

laying 7,200 pounds of eggs in a year! While good breeding birds will lay 90 eggs in a year, they can be counted on raising 60 or 70 chicks only; at 4 years of age these chicks will begin to lay, and in a few years become guaranteed breeders, or those which have raised from 40 to 70 chicks for several successive years.

While the birds do not lay well until 4 years of age, they begin to pay at 6 months, when the first plucking is made, and this is continued for every 6 or 8 months afterward. When 2 years old their feathers are valued at \$2 apiece, and at 3½ years the feathers realize the highest price. These facts, and the knowledge that the birds will breed when they are 80 years old, show plainly the possibilities of this new American industry.

Various methods of plucking are in vogue. In some cases the men rush at the birds and hold them, but usually they are driven into a narrow walk and shut in, the feathers being plucked through the bars; this method requires much experience, as if a feather is broken it is apt to produce an injury that will seriously affect the bird.

THE MINING INDUSTRY.—The history of mining in the State is briefly comprehended in the fact that from January 1, 1849, to January 1, 1907, the product of its gold mines has added over \$1,500,000,000 to the wealth of the world, and the best warrant for its future lies in the assurance that a still larger amount remains yet to be mined.

Almost every county of the State has produced more or less of the precious metals, though the greatest original producing districts, whether of quartz or auriferous gravel, still remain the chief sources of supply. Rich-paying placers were originally worked along the banks of streams in almost every mountain county, and the immense product for many years, including the banner year of 1853, was obtained almost exclusively from this source. The gradual failure of the surface placers led up to the discovery and exploitation of quartz ledges, drift mining of large beds of auriferous gravels and to

hydraulic mining. In the prosecution of these new methods veins have been worked to a depth of 3,000 feet, tunnels and drifts run for miles into old lava-capped channels, whole rivers diverted from their beds and mountains of gravel sluiced away. To-day mining is mainly prosecuted under the branches of vein, drift and hydraulic. The last two methods are employed to open up vast beds of gold-bearing gravel and the bedrock deposits of old river channels overlaid by hundreds of feet of volcanic deposits. The gold-bearing gravel and cement deposits are located mainly on the western slopes of the Sierra Nevada, in the counties of Plumas, Butte, Sierra, Yuba, Nevada, Placer, El Dorado, Amador, Calaveras and Tuolumne.

What is called the "mother lode" consists of a series of gold-bearing veins, often of great magnitude, forming a nearly continuous line throughout its entire length, nearly in the center of what is termed the auriferous slate belt, and appearing



HYDRAULIC MINING.

at altitudes above sea level, generally of the middle foothills, between 1,500 and 2,500 feet. The name, given to it by early miners, conveys no idea of any generic relation to other veins or lodes. It has been definitely traced through Mariposa, Tuolumne, Calaveras, Amador and El Dorado. It is difficult to secure any accurate estimates of the yields of the different districts in this great gold belt, but a few examples out of the great number along the lode may give some idea of its productiveness: The Princeton, in Mariposa, up to 1865 yielded \$4,000,000 down to the 500-foot level; since then it has been legally tied up. The Bonanza, near Sonora, Tuolumne County, has taken out \$2,000,000 from a series of recurring pockets, half of it between 1882-4. The Morgan Hill Quartz Claim, in

Calaveras, yielded \$3,000,000 in less than a year, most of the gold pounded out in a mortar. The Keystone, of Amador, has produced \$8,500,000. Though not on the lode, other mines have yielded as richly; the Rising Sun, near Colfax, in Placer County, has turned out \$2,000,000. In Nevada County, the Idaho's record is \$10,000,000 from 1869 to 1899; the Eureka, \$5,700,000; Massachusetts Hill, \$5,600,000; Gold Hill, \$4,000,000; Allison Ranch, \$2,300,000, and Empire, Fellows, Huston Hill, Osborne Hill and Gold Tunnel, \$1,000,000 each. Many quartz mines are now being operated in every county on the slope of the Sierra Nevada. Not so much attention to quartz in the counties north of the junction of the Sierra with the Coast Range has been given as to the lodes in the counties south, but lately there have been some surprising discoveries in Shasta and Siskiyou counties. Here is almost a virgin field for prospecting.

As bearing upon the question whether the California mines are "exhausted," and to justify the conviction expressed in the introduction to this sketch, that there is more gold yet in the ground than has already been taken out, attention is invited to the following considerations: It was demonstrated in the '50s that California was the greatest gold field in the world. The same is true to-day. The districts which yielded the richest returns then are the greatest producers now. They still invite prospecting and development, with promise of rich reward. Nowhere else can be found ledges so numerous and well defined, gravel deposits so enormous and such a network of blind river channels sure to yield returns. Fuel and timber are abundant and cheap. Over thirty rivers and streams rush perennially from the Sierra to the sea, their now wasted force waiting to be harnessed for the miner's use. Transportation is cheap. The mines are easily accessible and mostly situated at a low altitude in a country well timbered and watered, where winter work is not interrupted by storms and snow, by ice and cold. Labor and material were never so cheap. Every conceivable improvement in machinery has been adopted to fa-



FREIGHTING TO THE MINES.

cilitate the extracting and working of quartz and gravel, and new processes have been invented which vastly reduce the expense of manipulation. In the early days rock under \$40 a ton would not pay. To-day an average of \$7 quartz, \$3 drift and \$1 hydraulic are "bonanzas." The renewal of hydraulic mining under lawful authority and governed by proper restrictions is imminent, and such renewal will double the output of gold and bring numerous properties into the market.

Mining has now settled down to a business basis, and in every mining county there is renewed activity. All the lodes are not yet discovered. The oldest quartz-mining section is Nevada County, yet there new lodes are being discovered. The mining people are not the rough and uncouth characters so falsely depicted by sensational writers. The people are intelligent, enterprising and hospitable, and mining is pursued amid all the surroundings of civilization.

The silver mines of California are mainly found in Mono, Inyo and San Bernardino counties, east of the Sierra Nevada. They are not now profitable, on account of the depressed silver market, but they constitute very important mineral deposits, which better transportation facilities would develop into great activity. The silver production up to date is estimated at \$36,000,000.

Quicksilver is largely mined in California, and though deposits of cinnabar are found all along the Coast Range, the principal producing districts are Lake, Napa, Santa Clara, Sonoma and San Benito counties. The production in a recent year was 27,993 flasks of 76½ pounds each. The shipments from San Francisco for the same period were 27,108 flasks. The average value per flask for the year was about \$45.

Though foreign to a sketch of the precious metals, it is not out of place to terminate it by a brief notice of the fact that throughout the State are distributed large deposits of copper, iron, tin, lead, steatite, graphite, chromium, nickel, antimony, manganese, coal, petroleum, asphaltum, natural gas, lime, marble, slate, sulphur, gypsum, asbestos, borax, soda, cements,

ochre, magnesia and infusorial earths. Their wide distribution is remarkable, and an extensive development of them is only awaiting the opening up of a demand and cheaper transportation. Several copper deposits are worked, however; also many coal mines, and sulphur, borax, soda, salt, lime, petroleum, asphaltum, slate, granite and marble are mined, quarried, refined and manufactured at the present time.

Those who are interested in a more detailed description of the mineral wealth of the State are referred to the State Mineralogist's report.

PETROLEUM.—The development of petroleum in California, now believed to be among the largest and richest deposits in the world, is no new thing. As far back as 1856 an attempt was made to refine oil found near Los Angeles city, but owing to various circumstances the experiment was not at that time a success. For many years the oil wells in Ventura County, at Newhall (in the northern part of Los Angeles County), and at Puente, twenty miles east of that city, have been steadily and successfully worked. It may not be known to many people that the first company formed in the United States for the purpose of developing coal oil was in Santa Cruz County, California, over thirty years ago. It is evident that the oil belt of the State extends all along the Coast Range of mountains, from north of San Francisco to the Mexican line.

The local oil field of Los Angeles city has only been worked for about fifteen years, and for the first half of that period little progress was made. The field so far developed is located about one mile west of the business center of the city, on a range of low hills. The oil wells extend a distance of about one mile in a northeasterly and southwesterly direction, by a width of about one-fourth of a mile. The extent of the deposit may be judged from the fact that many of these wells are placed so close together that the derricks almost touch. It is no uncommon thing to see three, or even four, wells on a lot 50 by 150 feet, and most of these wells have been producing for a number of years. The oil is usually struck at a depth of

from 700 to 800 feet. The first oil stratum is over 100 feet in depth. Only a few wells have been bored below this, to a depth of 1,000 feet or more. Of late years the yield of the city wells has declined and the derricks are being gradually removed, real estate being worth more than oil.

The earlier wells did not yield more than about ten barrels a day on an average, and all had to be pumped, but some of the wells that have been sunk more recently have yielded for a time at the rate of 100 barrels and more in twenty-four hours, some of them flowing intermittently, the oil being forced up by gas, of which there is evidently a large supply underground. This has not yet been utilized.

The oil in this section differs from that in Pennsylvania, having an asphaltum instead of a kerosene base, so that it is



AN OIL TEAM.

not suitable for illuminating purposes. The average gravity is about 15° . It is a thick, black oil, of low specific gravity, which experts say is the best fuel oil that has ever been discovered. It is also suitable for the manufacture of lubricants, paints, printing

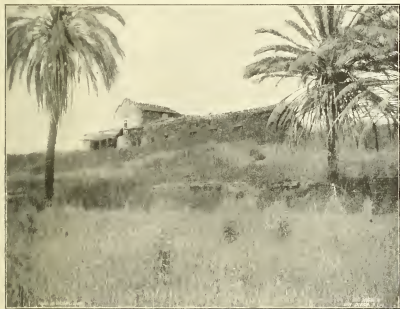
ink and other useful products, for which there is a market all over the world. There are several refineries, and a number of others have been planned, as they find a ready market for their product.

It is estimated that the petroleum production of California during the year 1906 was about 36,000,000 barrels, divided between Santa Barbara, Ventura, Fresno and Kern counties, and the Whittier, Puente and Los Angeles fields of Los Angeles County.

Today there are several thousand operating wells in the State. The Sunset is another important producing field of

Kern County, north of which the midway district is being developed. In Fresno county the Coalinga district has been turning out a large quantity of oil for several years. Oil produced at Santa Paula, in Ventura County, is in great demand, owing to the lightness of its gravity. Some big gushers have been struck in that section.

The market for California petroleum is rapidly expanding. It has been shown that a well-defined oil belt extends from San Diego on the south to Shasta on the north, although, the



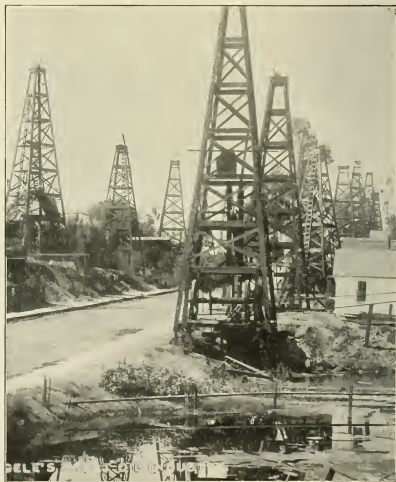
OLD MISSION, SAN DIEGO.

formation being much broken, it often involves the expenditure of much time and money to locate the deposit, even where the indications are plainly defined on the surface. Sometimes the oil has forced its way to the surface, through crevices, a long way from the source.

The Santa Fe Railway Company has demonstrated that it can use oil at a saving of 40 per cent over coal, paying 50 cents a barrel for the crude oil, and the railroads of the State

are using today nearly half the annual output on their locomotives and in their shops.

California is also shipping oil in large quantities to Japan and expects soon to make large exports to South America and other countries. At present the demand is ahead of the supply.



OIL WELLS.

One of the most remarkable oil fields in the State is that at Summerland, on the coast of Santa Barbara County, probably the only place in the world where oil is pumped from the ocean bed, a number of short wharves having been erected for the purpose, on which the derricks are placed.

MANUFACTURES.—Although few States in the Union possess better facilities for manufacturing than California, yet until recently there has been little development along this line outside of San Francisco. In explanation of this it must be remembered that the State is young, and was for a long time remote from the great centers of population of the country, also that it was sparsely populated, so that the manufactured goods brought around the Horn by sea were sufficient to supply the population. The high rates of wages and the great cost of fuel have also been obstacles in the development of the manufacturing industry. When these facts are considered it must be admitted that the progress made by California in manufacturing during the last quarter of a century has been quite remarkable.

The long distances from sources of supply and the excellence of the wheat grown in this State early gave an impetus to flour mills, while the vast tracts of fine timber afforded opportunity for lumber and planing mills. The sudden expansion of a home traffic made a demand for wagon-making and shipbuilding, the latter including the putting together and repair of steamboats, and later for the construction of river boats and ocean-going craft. From this beginning was developed the shipbuilding industry for which San Francisco is famous to-day. With the passing years the business has steadily advanced. From wooden vessels attention was turned to steel, and in 1885 the steel steamship *Arago* was built at a San Francisco yard. This was the first vessel for deep-sea service built upon the Pacific Coast. In the intervening years remarkable progress has been made. The United States Government recognized the shipbuilding industry at San Fran-

cisco, and awarded the contract for building the cruiser Charleston. This was followed by orders for the San Francisco, Monterey, Olympia, Oregon, Wisconsin, Ohio, California and others, besides several smaller craft. The wonderful achievements of the battleship Oregon in the late war with Spain are a standing monument to the skill of San Francisco workmen, while the performance of the Olympia under the gallant Dewey proved the excellence and worth of another San Francisco-built ship. Already one war vessel for a foreign power (Japan) has been constructed in San



U. S. CRUISER SAN FRANCISCO.

Francisco, and there are inquiries coming from European governments. What has been accomplished in the ship-building line is possible in many other branches of manufacturing.

As the mines developed a demand for machinery, so the presence of vast areas of timber lands opened up business opportunities in that line. The V flume did a great service for lumbering by giving easy and cheap access to mountain tim-

ber scores of miles distant from available points and previously considered valueless. The lack of good shipping places was remedied by the loading chute; the adjustable saw tooth proved of great importance and utility for sawmills, while the triple circular saw, the logging gang slicing machines, the guides and levers, were all designed in particular for manipulating the enormous and valuable redwood and other trees of the State, and thereby became the means of raising the lumber industry within its different limits to a magnitude and excellence that, to say the least, is extraordinary in the extreme meaning of the term.

California manufactures are still in their infancy, and greater progress will be made during the next ten years than ever before. Besides the great development of petroleum fuel, the development of electrical power has been so wonderful recently and the forces of the streams of the State have been so successfully harnessed to do the work of steam that the high cost of fuel supplies will be no longer a barrier to manufacturing enterprises. Within five years past wonders have been accomplished in California in the way of long-distance electrical transmission. Millions of dollars have already gone into and many millions more will go into the development of electricity in the mountain cañons and streams for the transmission of electrical energy to the cities and towns of the State. This will settle the power problem, and within five or six years California will have the cheapest, cleanest and most convenient motive power in the Union. This and petroleum fuel is what will make California a great manufacturing center in supplying the wants of the expanding American trade in the Orient. With such economical power it will be more advantageous for Eastern manufacturers who desire to participate in the great trade of the future to establish plants in this State rather than pay the freight charge across the continent to the Pacific Coast.

CAMPING OUT.—There is no more pleasurable way of enjoying a few weeks' outing in California, and at the same

time reaping the benefits of its health-giving climate, than in camping out, taking a comfortable wagon and avoiding the beaten tracks.

Unless you have ladies in the party the only tent required is the starlit sky or the shining needles of the silver spruce that sparkle in the moonlight of the mountains. There is no law that forbids a tenderfoot making himself as miserable as he pleases by loading himself with rubbish that takes two hours to pack and unpack. But the experienced camper will study what can be left behind, instead of what to take, and his outfit will be the lightest consistent with existence. Then he can go anywhere and be ready in ten minutes.

Mustangs or mules are best for all-around work, and they should be broken to the saddle, so that they can be used for packing if desired. They should also be used to the picket rope, or they may spoil your trip by burning a fetlock joint in their struggles to free their feet from the rope. Both should be true and steady pullers, for in the mountains you will find some steep pitches that cannot be ascended by plunging, and on which a balking horse is liable to impede one's progress in saintship. You may also find your bliss alloyed by going without a good brake. You will need it to rest your horses in going uphill, as well as in going down, for you may find places where you can scarcely go more than the length of the outfit at a time without danger of their being "stalled" before reaching the top. You also want the brake so fixed that you can at any place make a new one of wood with the ax and insert it easily so that it will stay.

It is easy to arrange the wagon so that two persons can sleep in it, but there is no part of the country where you cannot with perfect safety sleep on the ground. Heavy quilts are better than blankets, and two or three of them laid together and folded lengthwise make all the bed one needs. Start with only the top fold over you, and crawl under the others in turn as the night grows cold until you reach the middle. If you should be in a cold valley very high on the mountains and want more

cover pull over you the canvas in which you wrap your quilts during the day. This is enough for the coldest night you will see, even in winter, and for most people two quilts are ample anywhere. This combination makes a bed that is always ready, can be folded up in a minute and flung into the wagon or on a pack saddle in a twinkling.

If you must worry about rattlesnakes, amuse your fancy with a hair rope around your bed. But as thousands of people have been sleeping on the ground in California for forty-five years without anyone being damaged by snakes of that kind



A DAY'S CATCH.

in camp, you need not lie awake if you happen to forget it. The same with all other reptiles, bugs, animals, etc. The danger is not one-tenth that of being kicked at home by some eminently gentle "family horse."

In connection with such a camping trip one may enjoy excellent trout fishing in the mountain streams. Fair wagon roads now lead up most of the streams, though to reach the headwaters of some of them, like the Santa Ana, it is necessary to travel by bridle trail for some distance. Most of the larger streams are now sufficiently open in most places, like the

San Gabriel, to allow of the finest fly-fishing without tangling the line in the brush. Trout are still found in nearly all the larger streams of California that run toward the sea. In those running to the great plains of the Mojave and Colorado, which never connect with the ocean, they are not found, though the mountain streams have all the other conditions for trout. But if they connect occasionally it is enough, though there may be several winters in succession when they do not run through to salt water. The trout are apparently in some way dependent for their numbers upon this connection, though they spawn in the mountain streams.

Writing on the subject of trout fishing in one of the mountain streams of Southern California a well-known sportsman, T. S. Van Dyke, says:

"I had fished the best trout streams of Wisconsin and Minnesota thirty years ago, and thought I had seen trout, but I never did until I climbed these stairs, where horses had to stand all night wedged in between bowlders, and we had to pillow our chins on one knee. When the bait touched the water it was a network of silvery gleams darting from every quarter of the foam of the basin. Out of the bubbles and froth the trout came as plenty as from the stiller water, and at times seemed to rush right out of the center of the roaring sheet of plunging water."

THE SPORTSMAN IN CALIFORNIA.—In the Eastern States outdoor sports, with the exception of football and a few others, are confined to a limited portion of the year. In California all is different. The sportsman here sees his best days, and those who need a few days' relaxation from the chains of business are not confined to a few short weeks in summer. The season is, indeed, closed for large game, except bear, and they close it quite effectively for themselves. But during the greater part of the winter it is open for all small game, and there is rarely a day when one cannot somewhere find fair shooting, while in many places, in spite of the rapid settlement, it is what would be called very fine in most parts of the East.

Winter in California is generally called "the rainy season," as it is in all countries having half the year entirely dry, or practically so. By many strangers this is interpreted "a season of rain," from which the conclusion is quite easy that it rains all the time or most of the time. On the contrary, "rainy season" means the time of year when it may rain, as distinguished from the time of year when no rain is expected. In fact, the number of rainy days during the whole six months when rain is possible is very much less than it is in summer in any part of the East, where people can raise anything. Day after day, and often week after week, even in the most rainy of winters, the sun climbs unclouded skies and sinks to rest behind curtains of amber and rose. Even when a heavy storm is central over any place there are long periods of half-clear or breaking away and forming of clouds, usually in the middle of the day, during which one can indulge in most out-of-door amusements with comfort. While it may not be expedient to go very far from shelter, there is a belt of safety within which one can play almost as much as in summer. On the greater part of the country the soil contains enough sand and gravel to make long periods of mud impossible; on most of it the roads are good for driving in twenty-four hours after the clearing up of a heavy storm, and in twenty-four hours more they are ready for the bicycle.

It is not strange, then, that California should be the home of out-of-door sports and that winter should be the favorite time for them. Rarely is the ground so wet for any length of time that it cannot be found in good condition for horseback riding of the roughest kind, and then the air is just right in the whirl of excitement stirred up by polo. The air of California, especially in the winter, is the natural inspiration of the horse, and nowhere else does he so quickly feel the effect of a little barley. There is no twist in polo that he does not enjoy as well as the rider, and the native horse of California, short-coupled, sure-footed, wiry and springy of leg, is the best horse in the world for quick turning of every kind. Such a horse is as in-

dispensable for polo as for lassoing wild cattle, and good ones are both plentiful and cheap. Hence the sport is enjoyed here in winter as nowhere else on earth, and when the land is clad in brightest green of a hundred shades and the big mountains look solemnly down from another world of mighty pines and huge snowdrifts upon a greensward starred with myriads of violets, poppies and shooting stars, over which the horses are scudding and wheeling, it seems as if there could be no higher conditions of exhilarating sport.

Lawn tennis necessarily follows from the same conditions that so raise archery and coaching above the tame level of the same sport in many portions of the East. In the East it is generally played when it is quite as comfortable to sit in the house or on the porch, and often more so. Here it is played when it is a pleasure to be out of the house, and when the spectators do not feel obliged to shiver or roast. Nowhere is it more easy to keep the ground in good condition than here, and with the hours of sunshine, almost certain to intervene amid the rolling clouds of the heaviest storm, there are few days when it cannot be enjoyed. There is probably no part of the world where it is as much enjoyed as it is here both winter and summer, and no place where people can live and have anything they prefer where it can be played so many days in the year. And the winter sees very little difference in the number of the players or the hours of play.

Under such a sky the bicycle and automobile hold their own. Nowhere else is there such a field. From all the principal towns lead miles of good road in almost every direction. In most of them there are now enough streets paved with asphaltum to make riding good at any time when it is not actually raining. Putting up the machine for the season is something entirely unknown. The rider here puts in more time on the wheel in most winters than most riders do in the East in the summer, and in others, while the number of days for riding may not be so great, the number of miles ridden will be greater on account of the longer period of good roads.

The winter sea varies so little from that of the summer that yachting is continued straight through the year. While winter is the season of storms, and sometimes very heavy ones, there are none that on the Atlantic would be called very heavy. Vessels injured from mere stress of weather, if seaworthy, are something almost unknown in the history of navigation on this coast. A storm never rises here on less than a day's notice, and generally more. There is ample time to run for cover, and there is no case of a mere pleasure party being overtaken by a troublesome storm. There is more danger of being becalmed, because at this time of year the sea breeze has fallen away so much and the land breeze cannot be depended on so absolutely as the sea breeze of summer. But there is still enough for sailing, and the white wings skim a more peaceful sea than is seen in most parts of the globe at any time of the year. The ocean was well named Pacific, but this part of it is the most peaceful of all its shores. Small boats that would not live a moment on much of the Atlantic coast run out here continually, courting danger that never seems to come; or, rather, which gives so much warning that there is ample time to avoid it. Nor is there any danger in making a long trip, even in the teeth of a rising storm. Catalina, San Clemente and the rest of the big islands that rise like mountains out of the ocean, afford such ample shelter that in the many bays and coves one can lie to and laugh at the rolling waves far on the outside. When the storm wind is abroad upon the waters you can fish or tie up and go ashore to hunt or lie and sleep away the tempest, for the lee of these great islands is an absolute shelter and the big waves of the outer sea create but a light swell, the mere suggestion of the dashing surf that roars against the other side.

The mountain lion is merely the common panther of the United States, taking its name of lion from the Spanish leon. It is the size of the largest mastiff or Great Dane, exceeding any dog in strength, though of lighter, trimmer build than any of the larger dogs. While it has been known to attack man

without provocation and could quickly kill any ordinary man, it is rarely dangerous, and, like most wild animals, prefers to let man occupy his portion of the world. This panther is found along the coast, as well as in the mountains, and there is no part of the land too rough, too smooth, too wet or too dry for him to live in if he can only find cover near by. Though one might hunt a long time without seeing one, on account of their shrewdness in keeping out of sight, there are still many panthers left in the country. The surest way to hunt them is with dogs, and almost any dog with courage and nose will do.

For filling up an interval in hunting nothing exceeds the wildcat. This worthy abounds in California, as you may easily



SOME BIG GAME.

demonstrate by getting a place a few feet out of town and leaving the chicken-house open one night. The larger kind is the common lynx of fame, and can make a glorious fight when cornered. Being aware that he does not weigh over

forty pounds, he does not court a fight with a pack of dogs, prefers to spit at them from the big branching arms of the live oak, and will take a high granite boulder to growl from if there is no tree handy. Their teeth and claws make lynxes a terror to the common dog, and none but the bravest can whip them, though all like to chase them, always giving them a chance to climb something if they wish and rarely pressing them too hard.

The love of field sports is not only love of nature as seen in her wildest and most varied forms, but quite as much love of skill. No one wearies of shooting that takes the highest degree of skill, while one quickly tires of such shooting as young pinnated grouse. For this reason the valley quail of California now stand at the head of American game birds for those

sportsmen who care nothing for size of game, but mainly for the skill required to bag it. Always a bird to make the tyro wonder whether he ever would become a shot or not, always a bird to make even the experienced shot from the East wonder at the first interview whether he ever did hit anything or not, this quail has developed under the improvements in guns more than any other game on the continent. He seems to know all about modern chokebores, smokeless powder, chilled shot and improvements in loading that increase the range of the gun. He has a little more than kept pace with man, so that with all the advantages of improvements it now takes a keener eye and a quicker hand than ever to turn him over in his swift career.

High in the mountains lives another quail, and when the snow falls he comes down below its edge and often keeps within easy reach of the sportsman who is not afraid of a little climbing. The mountain quail has the same colors of chestnut and cinnamon, slate blue, white and black, as the valley quail, with a different and more artistic arrangement, making a more graceful and prettier bird in every way. It is considerably larger than the valley quail, and as plump, artless and graceful in every motion as "Bob White." The valley quail is saucy and defiant, but his cousin of the mountains is all gentility and politeness. He lingers in your presence as if he would like to trust you if it were only safe, but his foolish little legs are the better logician and a decided tendency to disappear underlies all his most trustful motions. Marvelous is their speed of foot, and you need not allow any scruple against pot shooting to interfere with your trying a running shot on one as he scuds under the scraggy limbs of the manzanita or the thorny branches of the lilac.

California is the home of the wild duck, and while he does not like too much shooting it is amazing in how much of it he will still live. Where the great snowy cap of the mountain is pictured in the smooth water the sunlight of the winter day glistens on the heads of dozens of mallards, and beside them

shines the white body and ruddy neck of the canvas-back, while his cousin, the redhead, floats in calm serenity beyond. Where is a fairer picture of perfect peace than the widgeon dozing away the warm noontide on the grassy bank of the lagoon? Only one—the little cinnamon teal of Mexico, that travels north in winter instead of south, and loves to visit her long-lost territory. Robed in cinnamon as beamy as the bronze of the wild turkey, with wings of soft gray banded with shining blue that flashes in the sun when he rises, scarcely anything is so gentle and peaceful in appearance. Along the sunny shores of little bays he calmly floats, or sits dozing on the grassy banks or along the little inlets he glides without a ripple on the water, then huddles up for a sun bath in some quiet cove. The forked rudders of the sprigtail may steer him swiftly along the sky above and the whizz of the gadwell sound like the rush of the hungry hawk above him, or the splash of the spoonbill rising from the water beside him may startle the common teal into attention, but little this teal cares for the movements of any other ducks, and takes life as easily as the people of his native land.

There are two rabbits found here, both of which are entirely different from the Eastern cottontail, having white and delicate meat, the blue one, or the chaparral rabbit, being fully equal to the regular standard of comparison—chicken—and much better than California chicken, as generally raised for restaurant use. While these rabbits may be found at any time of the year, they make the best shooting late in the winter and in spring, when there is little else to shoot, or even when there is nothing else. They are a notable exception to the rule that there is nothing fit to shoot in spring or early summer. By the middle of April the young are large enough and all are fat and at their very best, when in the East there is absolutely nothing that one can shoot with propriety, even if the law allows it. Both these keep in the brush, but the bluer one keeps in it almost entirely, and rarely ventures along the outer edges like the browner and larger one.

While there is no such fishing in winter as there is in summer, there is still enough to make variety for those who find the land tiresome. Trout fishing is, of course, closed, but it opens early enough in the spring to give an opportunity to those who have spent the winter here, though high water is always liable to interfere with good sport. Except when a storm is on the waters, of which there is always abundant notice, for storms never come in a hurry here, the winter sea is as mild as the summer sea. The sport upon the water is not



A TRUE FISH STORY—LAKE COUNTY.

as good as in the summer, but there is still considerable. The barracuda and the bonita have a period of rest, during which they do not bite, but long before winter is over they are running again and the flash of their silvery sides after the troll is as bright as in midsummer. The yellowtail, too, is more retiring and will not respond as readily to the bait on the open water. But he lingers around the wharves in considerable numbers and often makes lively work for the unwary fisher for

smelt who has dropped his bait too near this glittering chain of energy. He belongs to the mackerel family, and can smash more tackle for his size than any other fish that lives.

When you want something extra big, the jewfish is ready at almost any time of the year and never more vigorous than in winter. He is a big sea bass, with all the power of that gamy fish and weight to back it, often running to over 200 pounds, and sometimes over 300. You need plenty of boat and man to manage it, and if you have not still more man behind the rod you will do well to sublet the job. He can tow a respectable boat and rather enjoys the fun, giving you a rush below and a dart above and a cross-cut right and left under the boat, or anywhere for a change. About the time you think he is tired is just the time he selects for fooling you, and if you give him slack or tighten too much he will say good-by with a rush that will make you doubt your smartness.

The tuna is a big ocean mackerel that equals the jewfish in size and surpasses him in vigor and dash. If the wind fails you or you are too lazy to pull an oar he will haul your boat through the water for you, if you only give him a chance. But your dashing horse is ever too quick for a tight rein or a loose one, and the first thing you know he is gone, unless you are very careful. The tarpon is a "chump" beside this racing beauty. To the dash of a quarter horse he adds the wind of the four-mile racer, and can play you more tricks in less time than all the trout, bass or other fish you ever saw in eastern waters. His style is all his own; he takes lessons from none, and the school he keeps for making anglers out of greenhorns is one that everyone who wants to claim that noble name should not fail to attend. Smashed tackle, burnt fingers, aching arms, tired legs, vacant inwards, with plenty of disappointment for those who put on the airs of other schools are all it costs.

Fishing from the wharves that make out into the salt water continues almost as good in winter as in summer. Little mackerel make the water sparkle for acres at times, and often



THE TUNA.

pompano will call to inspect your bait, though, like all extra good things, they are none too abundant anywhere. Smelt that are very fine for frying play around below you in vast schools, and two or three hooks on the same line will often be full of them at once. You have almost a certainty of catching plenty of these, as also of the mackerel, if you have the right kind of bait. Often you will see the halibut with his queer-shaped head steering about in the water below. They are quite a lively fish when hooked, and when they run as high as forty pounds, which they often do, will make you think you have a small whale. They are as good as the halibut of the Atlantic. For variety you can hook an occasional shark from the wharves, with a stingray or two and a skate and other curious fish, while an occasional sea trout like the weakfish of Florida or some other variety of fine ocean fish will surprise you with a vigorous bite.

MINERAL SPRINGS.—While the pleasure resorts of Southern California have been liberally advertised throughout the world, and are well known to thousands of visitors, comparatively little has been said in regard to the mineral springs of the State. Yet they are many and valuable, and before long it is likely that some of them will be as widely known as the celebrated mineral springs of Europe. The therapeutical action of mineral waters on the human system is well recognized by the medical faculty. No State possesses a greater variety or number of springs than California, and in the main they are accessible directly by rail or by a few miles of easy staging. It is needless to say that the climate is all that the invalid could desire. They are generally in the mountains, at elevations varying from 500 to 3,000 feet above the sea. Trout streams are in the vicinity, and game abounds in the woods, so that the visitor need not suffer from ennui, and may have an object to prompt to the exercise so essential to the recovery of health.

Dr. Winslow Anderson, of the "Pacific Medical Journal," has examined the springs of California and reported the results in a work published in 1890, from which these facts are

taken. He found springs which may be classed as follows: Thermal acid, alkaline, alum, arsenic, borax, bromine and bromide, calcareous, carbonated, chalybeate, chlorinated, iodine, magnesian, silicious, and sulphuretted. Thermal springs abound. He examined 290 springs. Many of these springs are known by some popular name, but are really a group of springs, both hot and cold, and each containing different mineral constituents. A majority of the springs were subjected to quantitative analysis, so that the physician may



SHASTA SPRINGS.

now direct the patient to the spring which contains the specific remedy. Comparisons have been made with the waters of the celebrated springs of Europe, and the ingredients found almost identical. Nearly every county, except the valley counties, contains mineral springs of known repute.

SOUTHERN CALIFORNIA

THE MOJAVE DESERT.—The first view of the great State of California obtained by the traveler who comes from the East over either of the southern routes is by no means an inviting one. In each case the railroad runs for many miles within the State through arid and forbidding stretches of country—so-called deserts, the Mojave Desert on the line of the Southern California Railway, and the Colorado Desert on the Sunset route of the Southern Pacific.

Of the forty thousand square miles in Southern California, a large proportion of the total area lies in the Mojave and Colorado basins, usually called "deserts." But the "Great American Desert" of our schoolboy days has been found to be a myth. It has been pushed farther west, until now it has almost entirely disappeared.

Fifty years ago the man who talked of growing wheat in the San Joaquin Valley—the granary of California—was laughed at. In the year of 1872 Riverside, the center of California orange production, was a barren, sandy, and desert waste. Twenty-five years hence, the Mojave and Colorado basins will support a dense population. Water will be the magic element to effect this marvelous change. The soil is there, of untold productiveness, waiting to yield bounteous harvests as soon as it is vitalized by moisture. And the water is coming. It has been shown to be available for large areas by means of artesian wells, as well as from the mountains. The western extension of the so-called Mojave Desert raises nearly a million dollars' worth of wheat, of a quality that took first premium at the New Orleans fair, besides alfalfa, mammoth vegetables, raisin grapes, and other fruit. Around Hesperia, in the southeastern part of the same Mojave Desert, two-year-old fruit trees yield large crops, while from the Colorado Desert are shipped the earliest grapes, figs, and melons.

In the southern end of the Colorado Desert is developing a new Egypt with soil of unknown depth. A break in the Colorado River, causing floods, was controlled early in the year of 1907. The Imperial section has already been organized into a separate county with El Centro as the county seat.

When the basins of the Colorado and Mojave shall have been thoroughly developed, Southern California will easily support in comfort a population twice as large as that of the entire Pacific Coast to-day.

The Mojave Desert is, however, on closer inspection, not altogether so forbidding a section as some might suppose, to whom deserts are known only through descriptions read in books. It is by no means a monotonous expanse of bare, level sand. There is life, both vegetable and animal. The numerous varieties of cactus, with their showy flowers, the yucca, sagebrush and the mesquite tree, which furnishes food to Indians and stock, and fuel to the prospector, are all of interest to the Eastern traveler.

Needles.—It is here that the confines of California are reached. This little town, on the Colorado River, is not a place of much importance, the inhabitants deriving their chief income from catering to the miners and prospectors in the surrounding mountains, and to the trade of the railroad. There are several hundred Mojave Indians living around here, and many of the squaws meet the trains to offer pottery, toys, bows and arrows, and other souvenirs to tourists.

Needles has a reputation throughout Arizona and Southern California as one of the hottest if not the very hottest place in the United States. The old story about the soldier who died at Yuma and sent up from the lower world for his blankets is discounted by the people of Yuma, who say that the inhabitants of Needles go down to Yuma to cool off in summertime. This, of course, is denied by the good people of Needles as a scandal, but then, the question of rela-

tive summer heat is a delicate one to agitate throughout this section.

A large and complete entertainment building has been erected here for employees of the Santa Fe Railway. It is one of the finest establishments of the kind in the United States. The road has also completed a station hotel, of old mission style, named El Garces.

Goffs, thirty miles beyond Needles, is junction for railroad to Ivanpah and Searchlight mining district.

Ludlow.—Is the connecting point for the Tonopah & Tidewater railroad to Goldfields and Tonopah, 272 miles north, via Death Valley.

Daggett.—One hundred and fifty-nine miles from Needles, is an important station for mining regions to the north, in the direction of Death Valley, one of the most remarkable sections of the United States. This is a desert in very truth, a sunken basin 285 feet below sea level, surrounded by mountains without water, and with the climate of a furnace, where hundreds of gold-seekers have met a miserable death. This territory is now being developed as a rich mining region and agriculture is having a beginning. In addition to gold and silver, there are large deposits of borax in and near Death Valley. This was formerly hauled in teams for 75 miles across the waterless desert to Daggett. The tourist or prospector who invades this forbidden region without thorough preparation and the company of men who know the country, invites almost certain death. At Daggett the main line of the San Pedro, Los Angeles & Salt Lake Railway branches off.

Barstow.—Ten miles from Daggett, is a dining station and a junction with the line to San Francisco, by way of Mojave. The San Francisco trip is described on later pages.

At Kramer, half way between Barstow and Mojave, is a short line of railroad extending to Randsburg, which during the past few years has become the most important min-

ing camp in Southern California. The mines have every appearance of permanency. The chief mine of the camp is the Yellow Aster, which has made the fortunes of its lucky discoverers. For the tourist who wishes to see an ideal gold-mining camp, without having to travel too far from civilization, Randsburg offers a good opportunity.

Mojave.—At this point is the junction with the Southern Pacific Railroad, from Los Angeles to San Francisco. For a short distance the track of that line is used by the Santa Fe.

We will now return to Barstow. After leaving that place the train bound for Los Angeles follows the course of the Mojave River in a southwesterly direction, climbing the slope of the San Bernardino Range, and across the Cajon Pass, at an elevation of 3,800 feet. This is a wild, rocky section, through which the builders of the railroad encountered great difficulties. In the Pass itself is a system of roofed terraces on both sides of the track, to control the débris which comes with winter freshets. Within a dozen miles are a number of promising mines of gold, silver, and other minerals, also some fine marble deposits.

Victor.—At this place some important work has been outlined for the construction of a dam, which it is expected will furnish water for the irrigation of a large tract of land. Stock raising is being replaced by agriculture.

Hesperia.—Is 45 miles from Barstow. There was planted here about the year of 1882, a small colony, where a specialty was made of the table grape. Several hundred acres have recently been planted to apples. With improved irrigation facilities there is no reason to doubt that before many years all this section will be thickly settled.

Between the summit of the Pass and Highland Junction, two miles north of San Bernardino, a distance of 23 miles, there is a rapid descent of 2,681 feet.

San Bernardino.—The county seat of the county of that name, which is one of the largest in the United States. The

traveler here reaches the celebrated "kite-shaped track" of the Southern California Railway, and is only 60 miles from Los Angeles. For the present, we will skip the intervening stations and make a jump to that city, the commercial metropolis of the Southwest.

Los Angeles.—There is probably no American city of equal size that is so widely known throughout the United States, and even in foreign countries, as Los Angeles. This is partly due to the remarkable attractions of scenery and climate existing there; also to the exceedingly rapid growth of Los Angeles, from an obscure Mexican pueblo to a metropolitan city, and partly to the energetic and persistent advertising of those attractions throughout the world by the enterprising people of Los Angeles, who know that they have a good thing and are anxious to have others come in and share it with them. It is not too much to say that Los Angeles is fully as well known east of the mountains as is San Francisco, the principal city of the Pacific Coast. Those who come here with motives of curiosity, attracted by the descriptions they have read, frequently return, and in many cases become permanent residents. They find that the half has not been told them regarding the charms and attractions of the Angel City, and, consequently, it is not surprising that the growth of Los Angeles should be so rapid as to astonish the residents of more staid and easy-going communities.

Many outsiders, and not a few newcomers, are inclined to inquire the secret of the marvelous growth of this city, from a resident population of 11,000 in 1880 to 102,479 in 1900 and 250,000 in 1907, this being greatly increased by the winter visitors. There are three leading causes that have contributed to such growth. These are climate, soil, and location. Any one of these advantages would be sufficient to build up a large city, but, taken together, they insure the future of Los Angeles as the metropolis of the southwestern portion of the United States.



COURT HOUSE, LOS ANGELES.

The pueblo of *Neustra Senora Reina de Los Angeles* was founded on September 4, 1781, by soldiers from the mission of San Gabriel, under the protection of the Spanish governor. The first census of the little city, taken in August, 1790, gave the total population at 141. They were a mixed class, composed of one European, seventy-two Spanish-Americans, seven Indians, twenty-two mulattoes and thirty-nine mestizos. As recently as 1831, fifty years after the founding of the pueblo, the population was only 770. In January, 1847, the population was 1,500.

From that time on, for many years, the history of Los Angeles was quite an uneventful one. The growth of the city was slow. In 1849 there was a temporary boom, which, however, soon subsided. After the tide of gold-seekers had passed over, the city again reverted to an easy, uneventful existence. In 1854 the population was 4,000, of whom only 500 were Americans. In 1868 the first railroad was built, twenty-three miles in length, from Los Angeles to San Pedro, and eight years later the Southern Pacific was completed from San Francisco to Los Angeles, giving the city its first communication by rail with the rest of the world.

The census of 1880 gave Los Angeles a population of 11,311. Business was dull, and there was no sign that the city was on the eve of a marvelous growth. Five years later, on November 9, 1885, the last spike was driven in the Atlantic and Pacific Railway at the Cajon Pass, thus completing a new overland route from the Atlantic to the Pacific, and providing Los Angeles with competition in overland railroad transportation, an advantage which is not even yet enjoyed by San Francisco. From that time the growth of the city was wonderfully rapid. The great real-estate boom of 1885-7 is a matter of history, as is also the wonderful manner in which Los Angeles held up under the reaction that inevitably followed the collapse of the over-speculation of that period.

Considering that twenty years ago there was not a single

paved street in the city, Los Angeles has made remarkable progress in street improvements. There are now 385 miles of graded and graveled streets, 40 miles of paved streets, and 240 miles of sewer. Los Angeles has a complete sewer system, including an outfall sewer to the ocean now being enlarged.

At night Los Angeles presents a brilliant appearance. It



CHINESE CHILDREN.

was the first city in the United States to entirely abandon gas for street lighting and replace it by electricity, which was done twenty-five years ago. It is now one of the best-lighted cities in the Union. Many of the lamps are on high masts. Seen from one of the surrounding hills, the view of the city at night is most beautiful and striking.

That Los Angeles is, and will always remain, the commercial metropolis of Southern California and the Great Southwest admits of no doubt. The city possesses the great natural advantage of being located on the shortest route, by the easiest grades, between the Pacific and the Atlantic oceans. The merchants of Los Angeles do a large business, with a section of country extending from the eastern limits of Arizona to Fresno, on the north. The principal articles of export are fruits, fresh and dried, potatoes and vegetables, beans, wine and brandy, wool, honey, canned goods, wheat, corn and barley. Wheat is sometimes shipped from one of the ports of Los Angeles County direct to Europe.

The wholesale houses of Los Angeles carry heavy stocks. A number of San Francisco and Eastern houses have found it desirable to establish branches in the city. The banks of Los Angeles are in a solid condition, with deposits amounting to nearly \$100,000,000. The strength of these institutions was shown by the successful manner in which they came through the financial panic of 1893. The assessed valuation of the city is \$203,000,000.

There are at present four transcontinental lines of railway, including one by way of Southern Utah and Nevada, which shortens the distance from Los Angeles to Chicago considerably. Altogether, there are a dozen lines of railway centering in Los Angeles.

In addition to the railway lines, the Pacific Coast Steamship Company runs vessels every few days from San Francisco to San Diego, calling at San Pedro, Santa Monica and Redondo in Los Angeles County.

The expenditure by the government of over \$3,000,000 upon a large breakwater at San Pedro, work upon which is nearly completed, will undoubtedly have a great stimulating effect upon the foreign commerce of the city.

When the Panama canal is completed the coast of Los

Angeles County will be on the direct line of the steamships sailing from the Atlantic coast and from Europe to Asiatic ports. It will also furnish a greatly enlarged market for the horticultural product of the section.

The street railway system of Los Angeles is very complete, although it has been built up within little more than a dozen years, previous to which time there was only one horse-car line in the city.

At present there is probably no city of the size in the United States that has so modern and well-equipped a street car system, the total mileage of single track being over 400 miles, all electric. In addition to the local lines there are over 500 miles of suburban lines extending as far as 30 miles from Los Angeles, and still pushing forward.

Los Angeles has been the scene of remarkable activity in building operations. For several years past building has been going on at the rate of over a million dollars a month. Many handsome eight and ten-story blocks have gone up in the business section.

Los Angeles has become a great center for electric power. The three great companies centered in the city have a stock and bonded capitalization of \$49,000,000, serve 85,000 customers in thirty-five towns, using 1,250,000 incandescent lamps, 50,000-horse power and electric motors and arc lamps. The new Kern river plant, supplying 25,000 additional horse power, a distance of over 200 miles, went into operation a few months ago.

The most important enterprise that Los Angeles has ever undertaken is the bringing of pure water from the everlasting snows of Mount Whitney, over 200 miles distant. Preliminary work upon this great project, that is estimated to cost about \$25,000,000, has commenced. During the period of heaviest rainfall more than 25,000,000 gallons of water ran to waste daily in Owens Valley. By storage, this will insure a constant supply throughout the year of

about 20,000 inches, or 260,000,000 gallons. The city has purchased the necessary land, so as to give it control of the water supply. Besides water, it is estimated that over 50,000 electrical horse power can be developed.

During the past year over \$800,000 was expended by the city of Los Angeles on public school buildings. The value of the school property represents \$3,500,000, the combined salaries of 964 teachers amounts to nearly \$1,000,000 annually. There are nearly 40,000 pupils enrolled.

The Los Angeles public library stands first in the country in its per capita circulation, and ninth in the total circulation. A unique feature of the library is an attractive roof garden.

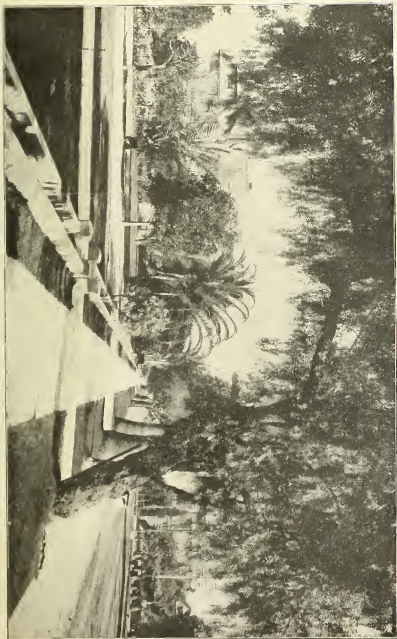
The theaters of Los Angeles are on a par with her other attractions. The recently completed auditorium compares favorably with the Metropolitan Opera House in New York, or the Auditorium in Chicago. It was opened in November, 1906, with an opera season of nearly a month.

One of the features that has contributed more than any other single thing to the wonderful development of Los Angeles and Southern California is the Los Angeles Chamber of Commerce, which now numbers 2,500 members. It has a fine building of its own, on Broadway, in which is the finest exhibit of products to be found in the world. The Chamber has been active in maintaining attractive displays at all the big world's fairs held during the past ten years.

One of the local attractions of Los Angeles is La Fiesta de Los Angeles, an annual carnival, held in spring, and lasting a week, during which are given floral parades, night electrical displays and other entertainments that attract many visitors from all parts of the country. In 1907 the Shriners of the United States visited Los Angeles at the time of the Fiesta, coming in special trains from all over the country, to the number of 50,000 or more.

Every variety of location for a residence may be found

FIGUEROA STREET, LOS ANGELES.



within the city limits of Los Angeles, and the person who cannot be suited here must indeed be hard to please. The city lies about midway between the Sierra Madre range of mountains and the ocean, and about 300 feet above the sea level. The Los Angeles River, which is almost devoid of water during the summer, but is sometimes transformed into a torrent for a few days in winter, runs through the city from north to south. In the northern and western portions of the city limits are hills of considerable altitude, from which magnificent views may be obtained of the surrounding valleys, with the ocean in the distance, the picture being framed on the north by a succession of grand old mountains. These mountains are one of the greatest charms of Los Angeles. From most of the streets, and from all the hills, inspiring views of the majestic Sierra Madre may be obtained. The mountains change their aspect with every variation of the sun and clouds. At times they appear so near that an inexperienced person might start to walk to them between meals; then, again, they apparently recede into the distance. The colors vary through all shades of gray and blue; at times, as night falls, they assume a black shade. At no time do these picturesque mountains present a more beautiful aspect than in winter, when their summits are capped with snow, while in the valleys the vegetation and flowers present the appearance of an Eastern spring.

The southern and southwestern portions of the city are level, with a gentle slope to the southwest. Across the river is the section known as Boyle Heights, a high, gravelly table or mesa land.

There are a dozen public parks within the city limits, aggregating about 700 acres, of which area four-fifths is in Elysian Park. Westlake Park, thirty-five acres in area, at the end of the Seventh Street car line, is the most popu-

lar open-air resort in the city. It has a lake with boats, fine drives, and extensive views from the adjacent hills. Concerts are given on Sundays. The park in East Los Angeles covers fifty acres, and has been made quite attractive. Here also is a lake.



WESTLAKE PARK.

The park nurseries are located here. Prospect Park, on Boyle Heights, is a small but beautiful place, with many choice trees and shrubs. The oldest and best improved of the city parks, on Sixth Street, not far from the business center, is known as Central Park. The trees here have attained a large growth. Hollenbeck Park is a tract of about twenty acres, on the east side of the river, on Boyle Heights. It has been improved with shade trees and a small lake.

Elysian Park is the only park of considerable size, a remnant of the thousands of acres of such land which the city formerly owned. It may be safely said that this tract offers the greatest possibilities for a diversity of growths of any piece of ground within the limits of an American municipality. Much of the land is within the frostless belt of the Cahuenga foothills. The views of mountain, valley and ocean, city and plain, are grand in the extreme. Over fifty thousand eucalyptus and other trees have been planted, and a boulevard and several roads have been graded through it. There are possibilities in this unique park site which strike all newcomers, and wonder is often expressed that so little has been done to develop the natural attractions of so beautiful a tract.

What has been said in regard to Elysian Park is true of the latest acquisition to the parks of Los Angeles, a tract

of 3,000 acres, donated to the city by G. J. Griffith. It is located about a mile north of the city limits, and embraces a varied assortment of mountain, foothill, and valley scenery, including a high peak from which magnificent views of the surrounding country may be obtained, and five miles of frontage along the river.

It is proposed to build a wide boulevard, aligned with shade trees, connecting these parks. In this manner one of the most attractive drives in the United States may be created.

After all is said, the chief attraction of Los Angeles to new arrivals lies in its beautiful homes. The rare beauty of the grounds surrounding the attractive homes of Los Angeles, Pasadena and other Los Angeles County cities, is a constant theme for admiration on the part of Eastern visitors. Other cities can show grander business blocks, but when it comes to gardens, Los Angeles is *facile princeps*. The mildness of the climate here permits the most delicate plants and trees to flourish in the open air all through the winter. At Christmas may be seen hedges of calla lilies, geranium bushes ten feet or more in height, and heliotrope covering the side of a house, while the jasmine, tuberose and orange make the air heavy with their delicious perfume. Giant bananas wave their graceful leaves in the gentle breeze, and ripen their fruit; the fan and date palm grow to mammoth proportions, and roses of a thousand varieties run riot. A majority of the residences stand in spacious grounds, a lot 50 by 150 feet being the smallest occupied by a house of any pretension, even within a stone's throw of the business streets. Many have from one to five acres of ground, all in a high state of cultivation, with well-kept verdant lawns, upon which the fig, orange and palm cast a grateful shade. Along the sides of the streets shade trees are also the rule, the favorite varieties being the graceful pepper, which grows to a great size, the eucalyptus and the grevilla.

The most universal material for residences in Southern California is wood—pine and redwood, the latter being used altogether for outside and largely for inside finish. This material, while amply sufficient for the climate, lends itself to graceful decoration undreamed of by those who have been accustomed to houses of brick or stone. Here and there, among the older structures, a brick residence may be seen, but they are few in number. There is one fine residence, constructed of stone, in the southwestern part of the city, built by a deceased Los Angeles resident, who was formerly a citizen of Chicago.

A great variety of architecture is found among the residences of Southern California. The picturesque and comfortable early Mission style of architecture, which should have been more extensively adopted long ago by the American settlers, is at length coming into vogue. Some of the more pretentious of these residences have spacious tiled court-yards, covered with glass, in which fountains plash, flowers bloom and birds warble.

A \$10,000 residence here is as good as a \$20,000 residence in the East. Owing to the mildness of the climate, there is no necessity for the thick walls, extra protection from frost, heating apparatus, and other appurtenances with which residents of the hyperborean regions of the continent are forced to supply their houses. The man of moderate means, in this favored clime, has a tasteful cottage, as attractive in a way as these, and with grounds every whit as beautiful, for Nature is here prodigal to the rich and poor alike.

One of the most attractive features about a home in Southern California is the wonderful rapidity with which vegetation of every kind grows, so that instead of having to wait years for a new residence to assume a settled and homelike appearance the owner only has to wait a few months until his house is surrounded with thrifty plants and creeping vines, while even some trees, as in the case of the eucalyptus,

grow up to a respectable size from the seed within a year, and can be planted around the lot while less rapidly growing trees are attaining size, thus obviating the bare, hard appearance which attaches to new residences in less favored climates, however beautiful, architecturally, the buildings may be.

The population of Los Angeles is cosmopolitan. During the past twenty years it has received accessions from every State in the Union, and from almost every country in the world. Papers are published in the German, French, Spanish, Italian, Chinese and Japanese languages. There are several thousand Chinese in and around Los Angeles who are engaged in raising vegetables or employed in housework. They have a residence section of their own, adjoining the old Plaza, in the geographical center of the city, and strangers who are unacquainted with the home life of the celestials should not fail to inspect it. A plan is under way for the building of a new and greatly improved Chinatown.

A comprehensive view of Los Angeles is secured from the summit of the Observation Tower, where are field glasses and camera obscura. This tower crowns the hill, the terminus of one of Los Angeles' inclined cable railways, known as the "Angels Flight," from Hill and Third Streets, near the heart of the business center. This railway transports its passengers in the space of one minute's time a distance of two blocks to an altitude the highest within the city limits, one of the most delightful residence sections in the city.



CHINATOWN, LOS ANGELES.



ANGEL'S FLIGHT, THE THIRD STREET ELEVATED ROAD.

THE KITE-SHAPED TRACK.

The development of railroad facilities through the increasing efforts of the different lines to secure their share of public patronage, has, during the past few years, opened up many delightful routes of travel. It is doubtful whether, in the whole United States, there is a route of equal length which presents a more perfect compendium of the section it traverses—such a *multum in parvo*—as the aptly named “Kite-Shaped Track” of the Southern California Railway, the towns along which are described in the following pages. The entire trip herein described can be made within the limits of a short day. Leaving Los Angeles after breakfast, the traveler may be back in good time for dinner, and have an ample period for luncheon at Riverside or Redlands. Of course, it is better to take several days for the trip, and alight at various interesting points, but the visitor who has only a short day to spend in Southern California may yet gain an excellent general idea of the prominent features of the section by traveling over this route between breakfast and dinner time. He will be far better informed than many who have spent a fortnight here, dividing their time between the hotels, the San Gabriel mission, Santa Monica, Pasadena, Chinatown and the near-by orange groves.

This route is, in fact, a sort of cyclorama of the varied features of Southern California scenery, the ocean views alone being lacking. Ere the train is well outside the limits of the city it plunges into a romantic cañon, lined by picturesque hills, in the winter and spring seasons mantled with the vivid green which only a California spring can paint. It is a climb of over 500 feet to Pasadena, the “Crown of the Valley,” the wonder town of this section. Here the San Gabriel Valley begins, a section of which those who confine their trip to the Old Mission obtain but a feeble conception. For over twenty miles the train runs

through this wondrous vale, past groves of orange trees, where myriads of golden globes shine out from the dark, glossy foliage; through orchards of peach and apricot trees, which are as if a shower of pink and white snow had descended on their limbs, as yet bare of leaves; through groves of stately live oaks, reminding one of an English park, especially in the early spring season, when the vivid green of the young barley between them resembles the verdure of a south of England meadow. And this ideal picture of many-hued green and pink and gold is fittingly framed by the dark, towering and majestic Sierra, its summits fringed with pine and snow-capped in places, stray wreaths of clouds lingering below the peaks, while above all is the azure mantle of a California sky. Then, through the Pomona Valley, which is rapidly becoming one great orchard, across mesas covered with sage-brush, a picture of what all this country has been but a few short years ago,



LOS ANGELES.

ere it felt the magic influence of water; past San Bernardino and around the grand amphitheater of mountains constituting the smaller end of the loop; through Redlands, the magic city, which has grown up, as it were, in a day. This is, in many respects, the most interesting part of the trip to the tourist, both in respect of grandeur of scenery, remarkable developments in town building and horticultural activity.

Returning from San Bernardino, the trip is made by another route, through Riverside, the pioneer citrus settlement of California, where the "desert" was first made to produce the golden fruit on a large scale, now, probably, the most widely known of all Southern California towns outside of Los Angeles and Pasadena; through Orange, with its attractive, small, productive homes, and Anaheim, the "parent colony," the first of all the irrigated settlements of Southern California, now a sedate and wealthy city; past the walnut groves of Rivera and across the river to Los Angeles.

We will now start. Leaving Downey Avenue station, the train crosses the Los Angeles River, and half a mile further on curves over the bed of the Arroyo Seco on a low, heavy trestle.

Los Angeles has been left behind, and when the locomotive has steamed up a heavy grade past a beautiful vale crowded with sycamore trees and shrubbery, a wide plateau of fertile land is reached. Here is Highland Park, one of the newest residence suburbs of Los Angeles. It is already thickly built up.

Garvanza.—Past a steep hill crowned by pretty villas, we come into Garvanza, the two places being so much a part of each other that it is hard to tell where one ends and the other begins. The town stands upon a high bluff, overlooking the Arroyo, and contains among its public edifices a large hotel and a public school building, the latter with its architecture surpassing that usually seen in places

of this size, with a tower, balconies and its entrances arched and inlaid. Near Garvanza, but not visible from the railroad, is the Church of the Angels, built by a wealthy English lady who owns extensive lands adjacent. The church is built of uncut stone, of Norman architecture, and is perfect in every particular. You enter the building and imagine yourself worshipping upon some nobleman's estate, as the vestrymen kneel before the olive-wood chancel and the rector reads from a strikingly beautiful desk, in the form of an angel, of Norman wood and carving. Stained-glass windows of foreign decoration and inlaid memorial tablets add to the interior beauty of the edifice.

The train now crosses the Arroyo Seco a second time on a high bridge, from which we catch a glimpse of the stony bed and abrupt banks of the river, and, like a little oasis, of some five acres of low meadow land planted to small fruits and vegetables. The track skirts the base of steep hills, at the foot of which lies Lincoln Park.



A MOUNTAIN WATERFALL.

At South Pasadena is located an ostrich farm, where a number of these interesting birds may be seen by visitors for a small admission fee. Some facts in regard to ostrich culture will be found on previous pages.

The San Gabriel Valley has the Sierra Madre Range on the north. These mountains are here grand and precipitous, inclosing the valley like a wall. The San Gabriel Valley has always been considered the choicest section—the *creme de la creme*—of Los Angeles County. It is, undoubtedly, the best known of any portion of Southern California. Even

before there was any "boom" here worthy of mention, lands in this valley commanded a comparatively high price. As with most other choice sections, the level-headed mission fathers discovered its advantages and founded the San Gabriel Mission—whose church is still in good preservation—in 1771. Now three railroads traverse the valley, and the land is rapidly being transformed into a succession of small homes and thriving little cities. The valley contains about 100 square miles of territory. Under the shadows of the lofty Sierra Madre, and separated from the lower plains by symmetrical foothills, the air is dry and bracing, proving beneficial to invalids who cannot bear close proximity to the ocean.



MISSION SAN GABRIEL.

To reach the San Gabriel Valley is a ride of about twenty minutes, the traveler having the choice of three steam and as many electric roads. The Pasadena route is the most picturesque, running along the bed of the Arroyo Seco, or Dry Creek, with high hills on either side, those on the right

being dotted here and there with groves of live oak trees, while the bed of the stream is aligned by large cottonwoods and willows. There is already a succession of residences from Los Angeles to Pasadena.

Pasadena.—The “Crown of the Valley” is probably as well known by reputation to Eastern people as any other city, great or small, in California. Located at a high elevation, near the foot of the great Sierra Madre range, from which commanding views of the surrounding country may be obtained, and with an ideal climate, it is no wonder that Pasadena is popular among tourists



THROOP INSTITUTE, PASADENA.

from the East. In 1874 the site of Pasadena was a sheep pasture. An association, composed mostly of Indiana people, secured the tract at the low price of \$5 an acre, developed water, and founded a colony, little dreaming that it was destined to become within a few years a city whose beauty has given it a reputation all over the civilized world.

The census of 1900 gave Pasadena a population of 9,117. Including the suburbs, which extend in all directions, it now claims a population of over 25,000. It has well-paved streets, handsome business blocks, large and tasteful churches and school buildings, an imposing library, spacious opera house, a large hotel and several banks, but its chief attraction is found in the beautiful homes of its citizens, standing in grounds of from half an acre to ten acres. It is small wonder that Pasadena is attracting wealthy men from all over the world, who come, see, and are conquered, building tasteful and costly residences among its orange groves. The people of Pasadena are cultured and refined.

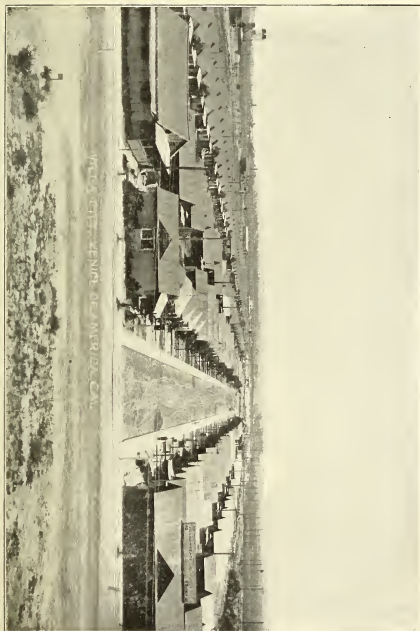


MOUNT LOWE RAILWAY.

Educational facilities are of the best, the Throop University having a complete manual training department.

There are many points of interest within a few hours' ride of Pasadena. A couple of miles north is Altadena, beautifully located on a slope of the foothills, where are a number of artistic homes, surrounded by fine gardens and orchards. From near this point starts the celebrated mountain railway, a combination of electric and cable incline road, which carries the vis-

itor, in a little over an hour, to the foot of Mount Lowe, at an elevation of 5,000 feet, affording magnificent views over the surrounding country, with the ocean and islands in the distance, the San Gabriel Valley appearing like a variegated carpet thousands of feet below. The first section of the railway, from Altadena to Rubio Cañon, where there is a pavilion, is operated by electricity; then comes the cable incline, a daring piece of engineering on a track that is as steep as the roof of a house, rising 1,400 feet vertically in 3,000 feet of progress. At the end of the cable line is the Chalet House. The hotel was burned down a few years ago, but it is to be rebuilt. From the Chalet House



VILLA CITY, VENICE OF AMERICA, NEAR LOS ANGELES

an electric road runs zigzag along the sides of the mountain, climbing up through the timber to Alpine Tavern, a picturesque mountain hostelry. From here the rest of the ascent to the summit of the mountain may be made, by those who so desire, on horseback.

Wilson's Peak is another favorite mountain resort, much visited in summer by tourists and residents of Los Angeles. It is reached by two trails, one from the foothills north of Pasadena and the other from Sierra Madre, east of Pasadena. The ascent is made on donkeys or horses, which may be hired at a reasonable price. This side of the summit of Wilson's Peak is a comfortable camp, where plain board and lodging may be obtained. The view from the summit is grand in the extreme. On Wilson's Peak is a solar observatory that will cost, when complete, \$300,000. It includes the finest solar photographic telescope in the world.

Pasadena has been making wonderful growth during the past few years. In the business quarter several large blocks have been erected. Among the residences are fine specimens of the Moorish, or early Spanish, style of architecture.

There are eight banks, with \$9,000,000 deposits. The sewage is carried seven miles south of the city and used for fertilizing upon a tract of 300 acres owned by the municipality. The business streets are paved with asphaltum and swept by hand, while sprinkling wagons keep down the dust in the residence section. The city is brilliantly lighted by electricity. The water system is excellent, two companies bringing pure mountain water to the city in steel pipe.

The Board of Trade of Pasadena is an active body, which has done much to promote the progress and prosperity of the city.

Pasadena is noted for its fine hotels, which entertain thousands of wealthy people from all parts of the world.

Alhambra.—About two miles southeast of Pasadena is a beautiful residence settlement among orange groves, which

duplicates the beauty of Pasadena, although at a lower elevation. It is reached by electric road from Los Angeles.

San Gabriel.—Also on the electric line, with its old adobe Mission church, in which services are still held, is just east of Alhambra. Here the first settlement of the valley was made, and the first orange trees were planted.

From Pasadena east extends the great Baldwin Ranch, a beautiful park-like tract, studded with live oaks. The home place, with its orange groves and stable of fleet racers, is a favorite objective point for tourists. To the north, hanging on the very base of the mountains, are Sierra Madre and other little settlements. All this is the choicest citrus land, and commands a high price, both from its intrinsic value and its peerless location.

Monrovia.—Ten miles east of Pasadena, is picturesquely located on a gentle slope, at the base of the mountains. A number of wealthy Los Angeles and eastern people have built handsome residences along the foot of the hills. Fine oranges are grown.

Monrovia boasts of its exceptionally fine water supply, which goes with the real estate, both acreage property and lots, so that the water is absolutely free. The town has excellent shipping facilities over the Southern Pacific and Southern California roads. Large profits have been made from lemons. Monrovia is the terminus of an electric line, on which frequent cars are run from Los Angeles. It is a delightful residence place.

Duarte.—Charmingly located on a spur of the mountains, just east of Monrovia, is one of the older settlements in the valley, and celebrated for the fine quality of the oranges raised there. Duarte is entirely free from damaging frosts, being protected by foothills on the east and north, and by the mountains. There is a citrus association, composed of growers in Duarte and Monrovia. Lemons are also grown on an extensive scale, and prepared in two packing houses.

Azusa.—Is reached soon after crossing the San Gabriel River; a flourishing horticultural town, of which the adjoining settlements of Covina and Vineland are really a part. Azusa ships more produce than any other point between Los Angeles and Pomona. Oranges are largely grown, and a specialty is made of strawberries, which are shipped in spring to distant parts of the continent. Azusa has a number of business blocks, a cold storage factory, and an electric light plant, the power being furnished by water from San Gabriel Cañon.

Covina.—Is a flourishing little settlement adjoining Azusa. Fine oranges are grown here. At Covina most of the strawberries shipped from Azusa are grown. Covina is growing rapidly since the arrival of the electric line.

Glendora.—Continuing eastward from Azusa, Glendora is reached, a picturesque horticultural settlement, nestled among orchards at the base of the mountains. This is, in some respects, the most beautiful part of the San Gabriel Valley. The valley narrows, and the hills on each side, of varied form, afford an endless succession of charming landscapes. Glendora is in a frostless belt, and great quantities of winter vegetables and berries are shipped from there to the East. Tomato plants grow to a height of seven feet or more, and continue to grow winter after winter, which is sufficient proof of the fact that there is no frost. Garden products are shipped east as far as Kansas City, St. Paul, and Chicago. Glendora is also noted for its fine citrus fruits, shipping early oranges to market.

San Dimas.—Four miles beyond Glendora, and 200 feet higher up, is nearly 1,000 feet above sea level, on a ridge which marks the dividing line between the San Gabriel and Pomona valleys.

East of San Dimas begins the Pomona Valley, known also as the San Antonio or San José Valley. This is really a portion of the great San Bernardino Valley, which extends into the eastern boundary of Los Angeles County, that por-

BALDWIN'S RANCH.



tion of it including about forty square miles of territory. Irrigation is cheaply supplied to this section from the San Antonio River, which comes down out of the cañon of the same name, a romantic spot and a favorite resort for pleasure-seekers. The soil and climate of this section are peculiarly adapted to the culture of citrus fruits, which flourish here in the greatest luxuriance. Railroad facilities are good and increasing, which has caused the valley to settle up rapidly. It contains a number of flourishing little towns.

Lordsburg.—A station on the Southern California Railway; has a large Dunkard College, in a building that was erected for a hotel during the real estate boom of 1887.

Pomona.—Is one of the most thriving cities in Southern California. The census of 1900 gave it 5,526 inhabitants, since which time the population has largely increased, and it is now at least 8,000. It is on the main line of the Southern Pacific Railroad system and the main line of the Southern California Railway, the latter running through North Pomona, from which station a dummy line runs to the business center, also on the main line of the new Salt Lake Road. Pomona has well-kept streets, a number of handsome business blocks, banks, schools and churches, and a general air of prosperity. Oranges, apricots, peaches, prunes and olives yield large profits to the fortunate owners, whose tasteful homes are embowered among the trees.

The orange crop last season brought \$2,000,000. Deposits in the four banks aggregate over \$2,000,000.

There are few places in Southern California better supplied with water than Pomona. There are three sources of supply for irrigation, each abundant. Half the water flowing in San Antonio Cañon is conducted in large concrete pipes three and a half miles to the point of distribution. Numerous cienegas encircle the valley, fed by subterranean streams from the mountains, and there are over 400 artesian wells.

The San Antonio Electric Light and Power Company, utilizing a mountain stream flowing from the San Antonio Cañon, furnishes light and power to Pomona and San Bernardino.

Claremont.—A beautiful suburb of Pomona; has a college which is well patronized. Here are many beautiful homes, with thriving and productive orchards of deciduous and citrus fruits. Claremont lies higher than Pomona, toward the foothills, commanding fine views of the mountains and the surrounding country.

Soon after leaving Claremont the train passes for a couple of miles through the sandy and rock-strewn wash of San Antonio Creek to North Ontario, the highest point between Los Angeles and San Bernardino.

Ontario.—Is connected with North Ontario by Euclid Avenue, a magnificent drive seven miles long, with four rows of trees and bordered by beautiful homes standing in groves of oranges and other fruit. An electric railroad runs down the avenue. Ontario, known as the "Model Colony," was laid out in 1881 by the Chaffey brothers, who went to Australia, laid out an irrigated colony there, and have since returned to California. It is a prosperous and flourishing settlement of beautiful homes, with a small but substantial business center. A specialty is made of lemon culture.

East of North Ontario the country is less settled. Wide plains, covered with sagebrush, show what all this section was like a few years ago, before water was developed.

Cucamonga.—Consists of "Old Cucamonga," the original colony on the old stage road from San Bernardino to Los Angeles, North Cucamonga and South Cucamonga. Most of the improvements are north of the railroad. There is a good water system, from springs and cienegas, the water being delivered by pressure through pipes and sold with the land. There are no open ditches in any of these colonies. The water is particularly pure, which, combined with the ozone-laden air of this elevation, makes sickness a rarity.

The land around here supposed, until recently, to be of little value, has been developed by Italians as first-class vineyard land. One vineyard, said to be the largest in the world, covers an area of 3,000 acres.

Etiwanda.—Was laid out by the Chaffey brothers before they established Ontario. It is, therefore, quite a pioneer among these young settlements. It has made steady progress from the beginning, in a modest way, there never having been any particular boom here. The settlement is 150 feet higher than the station, on a slope at the base of the mountains above most fogs and frosts, and remarkably free from sandstorms, which sometimes visit the lower parts of the valley. Etiwanda has good water facilities.

Rialto.—The "Empire Colony," is distant seven miles from Etiwanda and four from San Bernardino. A large amount of improvement is visible from the railroad. There is an extensive area of orchard. Fine oranges are raised.

San Bernardino.—In the thousands of articles descriptive of Southern California which have been printed during the past few years the city of San Bernardino has been much neglected. Far younger and smaller places, such as Riverside, Redlands and Ontario, which are tributary to San Bernardino, have received a hundred lines of mention to every one that has been accorded the county seat. This is partly due to the fact that, until quite recently, San Bernardino has given little attention to the beautiful.

San Bernardino—known also as the "Fountain" and "Garden" city, but to its intimate friends as plain "Berdoon"—is, in several respects, an interesting place. Founded away back in the '50s, by Mormons from Salt Lake, near the site of a Spanish mission of the previous century, its people for many years witnessed, with dubious surprise, the astonishing development of the surrounding region, without attempting to join the procession. The change first began in 1885, when the Santa Fe reached the

city. Modern San Bernardino is, therefore, only about twenty-five years old. Most of the substantial improvements have been made within the last ten years.

San Bernardino is the county seat of the largest county in California, which is also the leading citrus county of the State.

A toll road of solid construction from San Bernardino, a distance of nineteen miles, following the crest of the mountains, past pine, fir and oak timber and snowfields, alternately, on one side and the other of the divide, affords



SUBURBAN SCENE IN SAN BERNARDINO VALLEY.

a series of kaleidoscopic views that can be obtained in few parts of the world—now of vast forests, beyond which is the frowning, solitary desert, and now of the great valley, dotted with orange groves, grain and alfalfa fields, with the ocean in the distance. The heaviest grade on this road is $12\frac{1}{2}$ per cent, and the average 8 per cent. There is an old-fashioned log inn near the summit used as a clubhouse, with a fireplace big enough to take in a large tree trunk. It is named the "Squirrel Inn," after one of Frank Stockton's stories.

In the foothills is Arrowhead Springs, a capacious and attractive resort, reached by electric road.

San Bernardino is a railroad center. Besides the main line of the Santa Fe, which branches off here to the east, there is the Southern Pacific branch to its main line at Colton and Riverside; the small loop of the Southern Cali-

fornia Railway, by Highland, Redlands and Mentone; the Salt Lake and other lines to Highland and Redlands; also, electric lines to those places. Being a railroad center, it naturally follows that San Bernardino is also a business center. It is, in fact, the trading point for a large area of productive and thickly settled territory, extending from Mentone on the east and San Jacinto on the southeast to Riverside on the south and Ontario on the west, and for the mining regions east of San Bernardino.

Mention should not be omitted of the picturesque location of San Bernardino. The panorama of snow-capped mountains and sloping mesa, as it changes in aspect from hour to hour under varying effects of light and shade, is one of which the visitor does not soon tire. The variety of interesting points to be reached within a few hours from San Bernardino will make this in time a headquarters for tourist travel.

Leaving San Bernardino, the trip around the smaller end of the loop of the kite-shaped track is commenced. It may be made in either direction, half a dozen trains leaving San Bernardino daily each way. Taking the southern side of the loop, the train passes E Street, a ticket station, and then through moist land, past many old farmhouses built by the original Mormon settlers, through a "hog and hominy" region, which is in marked contrast to the horticultural country so far traversed.

Redlands.—This place commands the unqualified admiration of every passenger over the kite-shaped track. For beauty of situation it is unsurpassed by any city in Southern California. Lying on the foothill level of the upper Santa Ana Valley it combines varied and peculiarly picturesque scenery with a highly favored location for health. The city proper includes an area of seventeen square miles. It is thirteen miles northeast of Riverside and nine miles from San Bernardino. The population is made up of an

exceptionally well-to-do and intelligent people, whose energy and enterprise are well shown by the fruits of their labor.

Redlands is only twenty years old and most of the growth has been during the past ten years. No one would believe it, on looking at the place.

The adaptability of the soil of Redlands to successful



REDLANDS, FROM CAÑON CREST PARK.

citrus fruit culture is a demonstrated fact. The annual output of fine oranges constitutes Redland's main income—nearly \$3,000,000 from 3,000 carloads.

One of the show places of Southern California is the beautiful home of the Smiley brothers, on Smiley Heights, with its rare vegetation. No visitor to Redlands should fail to visit this beautiful hillside private park. A handsome public library was presented by these enterprising gentlemen to the city of Redlands.

The Hotel Casa Loma is a commodious and comfortable resort. Here the late President McKinley was received, on his visit to Southern California, a short time prior to his assassination. Roosevelt spoke from the balcony of the hotel on his tour. There are a number of handsome public and private buildings, and the place bears the unmistakable evidences of thrift and progress. It is a prohibition town.

Many interesting excursions may be made from Redlands. A short distance away is Yucaipe Valley, one of the few



HOTEL CASA LOMA.

places in Southern California where cherries are successfully raised. A drive of fifteen miles over a picturesque road through the Santa Ana Cañon brings the traveler to the electric power house, whence "juice" is transmitted to Los Angeles, a distance of 85 miles.

From Redlands the visitor may reach Bear Valley, a beautiful and attractive mountain resort among the pines, twenty-four miles away, among the peaks of the San Bernardino range, 6,000 feet above the sea. Here is a lake, with good fishing. During the summer months there are ample accommodations for visitors in plain hotels and cabins. A stage runs from Redlands in summer.

Crafton.—Three miles from Redlands is Crafton, picturesquely located. Back in the mountains is the Santa Ana cañon, in which is the power house of the Edison Electric company.

Mentone.—Is three miles east of Redlands, at the extreme upper end of the valley. It enjoys great healthfulness of location. Freedom from frost and fogs renders it especially desirable for growing those fruits most susceptible to these disadvantages; also for invalids. It has an area of over 2,000 acres, planted chiefly to oranges.

Highland.—Here fine oranges are raised, and there is a large State asylum for the insane.

Lying to the north of Arrowhead station, on the mountainside, is a landmark—the Indian arrowhead, visible from a great distance. This particular formation is said to be due to the diversified growth of the vegetation, and not to an artificial formation in the soil, as generally supposed.

Colton.—Leaving San Bernardino, this time in a southerly direction, to make the trip around the southern half of the large loop, a run of three miles brings the traveler to Colton, at the junction of the Santa Fe and Southern Pacific railroads; it also has direct connection with San Bernardino, Redlands and Riverside.

While not the immediate center for extensive fruit-growing operations, its easy accessibility renders Colton a desirable shipping point. Here is a large cannery and a large flour mill. At Colton are also located marble and lime works, both of which constitute important industries, the former article being extensively used for paving and foundation purposes.

At East Riverside the loop branches off in a westerly direction from the Temecula line, which also branches at Perris to San Jacinto.

Perris.—Twenty-two miles from East Riverside; is the center of a productive grain-growing region, where a large

amount of underground water has been developed during the past few years. There are gold mines that have been worked off and on in the neighborhood.

San Jacinto.—From Perris a branch line extends through the San Jacinto Valley, twenty miles, to the town of San Jacinto. Here it was that the author of *Ramona* drew her inspiration for the fine description in the closing chapters of that popular romance. San Jacinto Mountain, 11,500 feet high, contains large forests of cedar and pine. Below the summit of the mountain is Strawberry Valley. Here several thousand acres of land have been acquired by a company formed of Los Angeles physicians, who have built a thoroughly modern, up-to-date health resort. Around the main building are cottages and tents, and the visitors spend most of their time in the open air. The settlement is known as Idyllwild, is just a mile above the sea, and is connected by telephone with the outside world. It is reached by a stage ride of twenty-one miles from Hemet, a small town surrounded by particularly clean and thrifty orchards.

The Hemet dam, one of the largest reservoirs in the country, is located in the San Jacinto range of mountains. The masonry is 122 feet high and over a hundred feet thick at the base. This system furnishes water to the large area of orchards and fields in the San Jacinto Valley.

Elsinore.—The Temescal branch from Perris runs through Elsinore, distant fourteen miles from the former place. At Elsinore there is a lake of considerable size and warm springs, which are credited with much efficacy in curing rheumatism and other diseases. There is a good hotel.

Temescal, in the cañon of that name, was formerly on the line of a short cut to San Diego, but the track was washed out so frequently by winter freshets that it was finally abandoned.

Riverside.—Returning to East Riverside the traveler on the kite-shaped track looks down upon Riverside proper—one of the productive marvels of the world. It is a municipality fifty-six square miles in area, combining all the advantages of a modern commercial city with the rural beauties of productive orchards and elegant homes. Practically the whole valley is within the city limits, and upon each ten, twenty, or forty-acre lot is a picturesque residence. The commercial center, furnished with all the conveniences of business life, is near the northern end of the valley.



PALMS.

For its mileage of graded, macadamized and shaded streets and avenues; of electric street lights; of steel and iron water pipes, carrying pure artesian water for domestic use; of sewers; of telephone and electric light wires; for the number and capacity of its fruit-packing houses, and for the amount of money invested in school buildings and deposits in banks Riverside is well in advance of all the cities of its size in the State of California.

It has, also, a thoroughly equipped electric street railway system, well appointed hotels and boarding-houses, and an elegant modern theater. The Glenwood, a three-story hotel in the Mission style, covering an entire block, is one of the most unique, artistic, and at the same time home-like hotels in the country.

The richness of Riverside soil is shown by the thrifty condition and great productiveness of its orchards and fields, and by the fact that, outside of Los Angeles, it is the great-



CACTUS.

est shipping point in Southern California. Its population, numbering ten thousand, is the wealthiest, per capita, of any city in the United States. The presence of numerous and fine churches and schools and the absence of saloons evidences the high intellectual and moral standing of its people.

Riverside is the greatest orange-growing district in the world. Its orchard area is being rapidly extended. The citrus product in 1906 brought about \$3,500,000 to the growers and shippers. It should be borne in mind that thousands of the trees are of recent plant-

ing, and that a considerable large proportion are not yet in full bearing. Oranges are shipped from Riverside every month in the year, though the bulk of the crop goes out between December 1st and May 1st. During the height of the season from twenty to thirty large packing houses are in full operation, employing over 1,000 people, and as many more are employed in the orchards picking and hauling the fruit. Riverside is the mother of the famous Washington Navel orange, the acknowledged king of fruits.

Riverside has two of the most noted avenues in the world—Magnolia and Victoria. Their combined length is twenty miles, mostly through orange groves, embowering beautiful homes. There are 160 miles of graded streets within the city limits, including foothill boulevards on Arlington Heights, which afford views of marvelous beauty. Eleven miles of the city streets are paved with asphalt and mac-

adam, The natural roads are the finest in the world—never muddy and seldom dusty.

One of the most wonderful scenic driveways in the United States is that blasted out of the rugged sides of Mt. Rubidoux. It is a private enterprise of the Huntington Park Association and is claimed to be the best mountain automobile road ever built. In all arid America there are no finer irrigation systems than those of Riverside, and the purity and amplitude of her domestic water supply are not excelled anywhere. In the Albert S. White Park may be seen the finest and largest collection of cacti in America, if not in the world. The Sherman Institute, an Indian school, is an interesting place to visit.

Corona.—Fourteen miles southwest of Riverside is the thrifty colony of Corona, formerly known as South Riverside. It was laid out during the real-estate boom of 1886-7 on a unique plan, with a circular boulevard surrounding the town site. High hills encircle it on the south. It is a notable instance of energy well applied to natural resources, and has few equals in material prosperity in Southern California. Steady, substantial improvements are everywhere being made. The leading industry is the mining, manufacturing and shipping of clays and clay products of many varieties.

Orange.—Passing through the rich Rincon country, a fertile agricultural territory, and past Olive, a pretty little town nestled at the foot of the hills, the traveler reaches Orange, in the county of the same name, one of the smallest counties in the State, but rich in productions. At Orange is a junction of the kite-shaped track and the Southern California line to San Diego. The towns of Orange, Tustin and Santa Ana form practically one continuous expanse of highly cultivated horticultural lands. Santa Ana lies off the Riverside - Los Angeles line and on the San Diego line. Everything grown in a semi-tropical climate flourishes here. Oranges, raisins, walnuts, deciduous fruits, corn, barley and

vegetables are the chief products. There are nearly 100 miles of irrigation ditches and over 1,000 flowing wells.

Anaheim.—Five miles northwest of Orange is Anaheim, founded as a vineyard colony on the coöperative plan by Germans from San Francisco fifty years ago. It is now the second city in Orange County, the German element still largely predominating. In addition to wine, Anaheim raises a great variety of products, from alfalfa to oranges. A few miles from Anaheim, at Los Alamitos, and connected by a short branch of the Southern Pacific Railway, is a big beet-sugar factory owned by the Clarks of Montana.

Fullerton.—Three miles from Anaheim, is the youngest town in Orange County. The land surrounding the town is very fertile, and oranges, lemons, walnuts, olives, deciduous fruits and vegetables are raised on a large scale. The town of Fullerton, although only ten years old, has had such a remarkable growth that it is frequently spoken of as the metropolis of the northern portion of Orange County. Being the shipping point and business center of the rich and well-cultivated districts of Placentia, La Habra and Orange-thorpe, it is steadily growing and increasing its business. Near Fullerton are a number of productive oil wells owned by the Southern California Railway and others.

La Mirada.—Six miles from Fullerton; has a handsome depot building, in the Mission style of architecture. Here is the Windermere ranch, a striking example of the benefits of irrigation. When the owner bought this land—about 2,400 acres—there was no water on it, nor did there seem to be any water available. It had been used as a sheep ranch for over 100 years, with occasional crops of grain. The owner prospected for artesian water, found it in abundance, and started tree planting on it. There are now miles of shade trees from twenty to thirty feet high, and lemon orchards, each tree of which will yield two boxes of lemons a year.

Santa Fe Springs.—It is a pleasant ride, through fields of

waving green and vineyards, down the three-quarter stretch from Fullerton, in Orange County, past Northam, to Santa Fé Springs, in Los Angeles County, a former pleasure resort and sanitarium.

Whittier.—Three miles north of Santa Fé Springs, attractively located on the slope of a hill, is Whittier, a flourishing little city named after the Quaker poet, which was laid out during the real-estate boom of 1886-7, and has since then made solid progress on merit. Indeed, Whittier is today one of the most prosperous and progressive towns of Southern California. Here is a large State Reform School. Fine lemons are raised. There is an electric road to Los Angeles.

Los Nietos.—The settlement for which the whole of this valley is named. It consists mainly of a few adobe buildings, among which is the crumbling remains of what was once the home of the late Governor Pio Pico, who saw his once vast land possessions melt away before the Yankee invasion. This is to be preserved.

Rivera.—Is situated between the Old and the New San Gabriel rivers. The country surrounding is devoted almost wholly to agricultural and horticultural pursuits. While all vegetables, fruits and cereals do remarkably well in this locality, the English walnut and orange have taken the lead. Rivera is the walnut center of Los Angeles County. There are 6,000 acres of walnuts, yielding an annual income of about \$350,000.

Ten miles beyond Rivera, after crossing the Los Angeles River—a dry bed in summer, although in winter often a raging torrent—the train enters the graceful red-brick depot of the Southern California Railway in Los Angeles, known as La Grande.

THE SOUTHERNMOST COUNTY.

San Diego, the southernmost county of California, and one of the largest counties of the State, contains a most remarkable variety of scenery, soil and climate, and offers great attractions to the tourist and health-seeker, the horticulturist and the miner.

The county extends back from the ocean to the Colorado River, and in elevation from 250 feet below to 10,987 feet above sea level, thus affording a remarkable variety of climate and productions. On its highest peak the snow remains all the year round, while in the Colorado Desert the midwinter sun drives the visitor to seek a grateful shade under the date and banana. Between these two extremes may be found every grade of climate and soil.

At Orange, described on a previous page, the "surf" line of the Southern California Railway branches off from the kite-shaped track.

Santa Ana.—Two miles from Orange is Santa Ana, the county seat of Orange County, and the principal town. It is a bright and thrifty commercial center, with substantial brick stores and business streets paved with asphalt. In the residence section are numerous attractive homes, embowered in foliage. The town is surrounded by a wide expanse of country devoted to the cultivation of citrus and deciduous fruits, olives and walnuts, from which the owners of ten or even five-acre tracts frequently obtain sufficient revenue to keep them and their families in comfort. The seaport of Santa Ana, Newport, is reached by electric line and a short branch of the Southern Pacific Railway, which also extends from Los Angeles to Santa Ana. Santa Ana has an electric line to Los Angeles.

Between Santa Ana and the ocean in a southwesterly direction are the celebrated Westminster peat lands, which, after reclamation, produce great crops of vegetables, par-

ticularly celery, which is shipped east by the train load, finding a ready market in Kansas City, Chicago and other points.

Soon after leaving Santa Ana the train runs for a number of miles through a tract of level and rolling land, where few improvements are visible. This is the great San Joaquin ranch of 107,000 acres, one of the largest undivided ranches in California, belonging to the estate of the late Mr. Irvine, of San Francisco. It is at present devoted to the raising of barley. Modjeska Station is named for Mme. Modjeska, the well-known actress, former owner of a picturesque ranch in the foothills, a few miles east of the railroad.

El Toro and Laguna Beach.—From El Toro, a stage runs regularly during the summer months to Laguna Beach, a quiet little seaside resort, seven miles distant, where good plain accommodations may be had at a comfortable inn.

Capistrano.—A few miles beyond El Toro the railroad swerves in a southeasterly direction toward the coast, which is reached at Capistrano (San Juan Capistrano), one of the most picturesque natural locations in Southern California, at the mouth of a cañon opening on the ocean. The picturesque ruins on the left as the station is approached—which have recently been restored by the Landmarks Club—are those of the mission of San Juan Capistrano, founded in 1776. It once had a tower 120 feet high, which was shaken down by an earthquake in 1812, when a number of the congregation were killed. San Juan is a quiet and dreamy place, which has caught little of the spirit of Southern California progress. The valley abounds in natural beauties. It is fertile and fine fruit is raised.

Just beyond San Juan Capistrano is "San Juan-by-the-Sea," where an attempt was made to build a town on the high bluff during the real-estate boom of twenty years ago. No improvements were made, and the site has since been sold. This is the promontory known as Dana's Point, and described in that interesting volume, "Two Years Before the

Mast," which should be read by all who are visiting Southern California for the first time.

Oceanside.—After leaving San Juan, the railroad runs close to the beach all the way to San Diego, a distance of 67 miles, affording one of the most delightful railway journeys in the State. At Oceanside there are two branch lines of road, one running to Fallbrook, a picturesque fruit-growing section in the mountains, twenty miles distant, and the other to Escondido, twenty-two miles distant, where raisin grapes and other fruit are raised on a considerable scale.



THREE SAN LUIS REY BELL(E)S, EACH OVER ONE HUNDRED YEARS OLD.

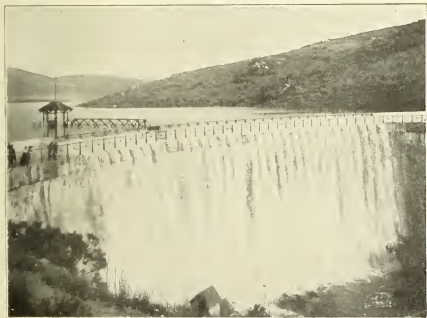
Back of Oceanside is the fertile San Luis Rey Valley where extensive water developments are under way.

Five miles northeast of Oceanside is the interesting old mission of San Luis Rey, which has been restored.

Carlsbad.—Here are mineral springs and a plain hotel. It is one of the numerous places laid out during the boom of '87, a little ahead of time.

San Diego.—The Bay of San Diego was the first place touched at by Cabrillo, when he discovered what is now California, in 1542. It was long after that when the first

settlement was made. The original San Diego was located at Old Town, near which the mission building yet stands. The present city had its beginning as late as 1867, when A. E. Horton, a furniture dealer of San Francisco, still living in San Diego, bought 900 acres, now in the heart of the city, at an average cost of about 27 cents an acre. It was not until 1885, when the Santa Fe completed its trans-continental line to the city, that San Diego began to go for-



SWEETWATER DAM. SOURCE OF SUPPLY FOR THE SAN DIEGO LAND COMPANY'S LANDS.

ward in earnest. The population of the city, by the census of 1900, was 17,700. During the past two years it has had quite a boom, especially since the commencement of work on a direct railroad to Yuma. San Diego now claims 35,000 population.

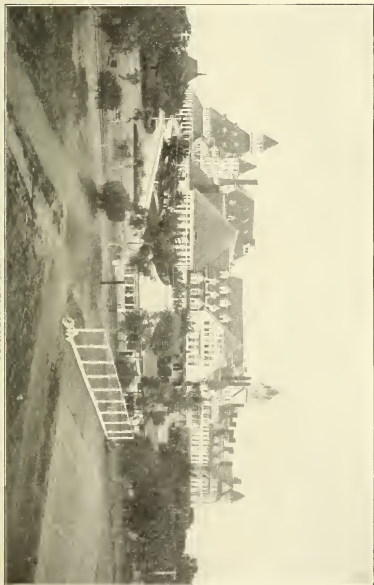
San Diego occupies a beautiful and commanding site, on a plateau formed by gently sloping foothills, on the north-

eastern shore of one of the finest bays in the world, the only land-locked harbor in California besides that of San Francisco. On the northeast and southeast are mountain peaks. The climate is remarkably equable, with few cloudy days during the year. The average temperature for January and July differs only 10 degrees. The average annual rainfall is only ten inches. San Diego contains a number of fine hotels, churches and business blocks, also a handsome opera house. The bay is thirteen miles long, completely land-locked, and with six square miles of valuable anchorage. A large amount of coal and lumber is imported to San Diego, besides general merchandise. The Bentley Ostrich Farm, the largest in California, is located near San Diego, and is a point of interest to visitors.

Coronado Hotel.—On a long, narrow strip of sandy land, which separates the bay from the ocean, has been built the largest seaside hotel in the world—the Coronado—at a cost of over \$1,000,000. It is reached by ferry from San Diego. There are streets and avenues, a multitude of shade trees, and a boulevard five miles long. Quite a city has grown up around the hotel, which can accommodate 1,200 guests. A constant round of entertainments is furnished.

Coronado is one of the show places of California. Visitors who come here for the first time can scarcely believe that a few years ago, where avenues of palms and beautiful gardens surrounding tasty residences are now seen, there was naught but bare sand. Coronado is a favorite residence place for business men of San Diego. A pleasant feature, introduced a couple of years ago, is the Tent City. Here, during the summer months, a city of canvas blossoms forth on the beach. Comfortable cloth houses, with board floors, may be rented, furnished or unfurnished, at moderate prices. A good orchestra plays regularly, and many other attractions are provided for visitors.

Point Loma.—Here, on a high bluff commanding a grand



HOTEL DEL CORONADO.

view of the bay—one of the finest views in the world—are extensive buildings of the Theosophical Society.

Pacific Beach.—Eight miles north of San Diego; has a delightful location, a good hotel, and fertile soil. It is becoming a residence suburb of San Diego.

La Jolla.—Reached by a short line of railroad. Here are caves and an artist colony.

National City.—Five miles south of San Diego, on the bay, is National City, the terminus of the Santa Fe system on the Pacific Coast. A mile back from National City, sheltered from the ocean, is Paradise Valley, with a number of beautiful homes and flourishing orchards.

Four miles south of National City is Chula Vista, or "Pretty View." It is aptly named. Here lemon culture has attained its greatest development in San Diego County.

Immediately south of Chula Vista, four miles from the ocean, is Otay. All that is needed is irrigation.

Tia Juana.—Is the gateway to Mexico, the boundary line passing through the town. On the other side is the Mexican custom house. Several companies of Mexican soldiers are located here.

A few miles inland from San Diego, and reached by railroad, is the Sweetwater dam, one of the most important water storage systems in California. The Sweetwater Valley is one of the most fertile in the county, with many groves of lemon, olive and other trees. The valley of El Cajon, reached by the Cuyamaca Railroad, is noted for its fine raisins. There are several thousand acres of bearing vineyard.

The "back country" of San Diego County is picturesque and rugged, containing elevated mountain regions, where some snow falls in winter. There are a number of rich gold mines, and pineapples are raised on the mountain slopes. The tourist or health-seeker who can afford the time will be amply repaid for a trip through this interesting region.

During the past few years much interest has been aroused

by the development, in the interior of San Diego county, of a region rich in precious stones, some varieties of which have been hitherto unknown. Several of these deposits are now being worked, on a scale of considerable magnitude, New York capital being interested.

Old Mexico and Sweetwater Dam.—A trip to San Diego is not complete without visiting Old Mexico and the great Sweetwater Dam.

The National City & Otay Railway runs personally conducted excursions to Tia Juana, Mexico, and Sweetwater Dam, daily, leaving station foot of Sixth street, at 9:10 a. m.,



MONUMENT BETWEEN MEXICO AND UNITED STATES.

passing through National City, Olivewood, Chula Vista, Otay and Nestor, towns noted for their beautiful orange, lemon and olive groves.

From the cars one commands a grand view of mountains, bay, ocean, famous Corpus Christi Islands of Mexico, with San Diego, Point Loma and Coronado, with its magnificent hotel, the Mecca of pleasure seekers, in the distance.

After traversing the shore line of San Diego Bay, and winding through beautiful suburbs, the excursion arrives at

Tia Juana, California, the terminus of the N. C. & O. Railway.

Visitors are taken in comfortable stages across the border line to the old town of Tia Juana, Mexico. Here ample time is given to visit the curio stores, where one can purchase fine Indian pottery, blankets, drawn work, Mexican cigars and souvenir postals.

Parties wishing a genuine Spanish dinner can procure same at the Spanish restaurants. The excursion agent conducts the party to the Mexican Custom House, where handkerchiefs can be stamped with the Mexican coat of arms, free of charge; then to the adobe church, historic jail and bull arena, where the famous Spanish bull fights are held. Returning you pass the monument erected on the line separating United States from Mexico by the two governments conjointly, where your picture can be taken with one foot in the United States and the other in Mexico. Cross the Otay Valley; pass through the 6,000 acres of lemons and orange groves of Chula Vista; cross the Sweetwater Valley; then over National avenue to San Diego, arriving about 5 p. m., having had one of the most delightful outings it is possible to take. An experienced guide is always with each party to point out and explain all points of interest. The fare for this interesting side trip is \$1.00.

COAST TOWNS OF LOS ANGELES COUNTY.

One of the leading attractions of Los Angeles County is the long stretch of beach. In this favored section the pleasures of the seaside are not confined to a few summer months. Even at Christmas it is a common thing to see people enjoying a bath in the surf.

Santa Monica.—The oldest established of the seaside resorts of Los Angeles County is Santa Monica, located on a wide bay that bears some resemblance to the Bay of Naples. Santa Monica is a well-improved and progressive little city,

with paved streets, miles of cement sidewalks, good business blocks, and hundreds of charming residences, surrounded by flower gardens and shade trees. The place has had a rapid growth since it has enjoyed rapid and frequent transportation facilities by the electric road, which runs cars to Los Angeles every few minutes.

The climate of Santa Monica is as near perfection as could be imagined, there being very little difference between the



NORTH BEACH, SANTA MONICA.

summer and winter temperature. There are few industries at Santa Monica, most of the inhabitants making their living from the summer visitors. The streets are sprinkled with sea water. It has two parks. During the past few years improvement has been active, several miles of streets having been graded.

About three miles north of the town is Santa Monica Cañon, a picturesque ravine, opening on the ocean beach, and studded with large trees. The track of the Southern Pacific Company runs from Santa Monica to the cañon, and out on a wharf about three-fourths of a mile in length, at which steamers and sailing vessels stop. On a bluff to the

north of the cañon is a forestry experiment station of the State University, where may be seen growing over fifty varieties of eucalyptus trees. The National Soldiers' Home, distant about three miles from the coast, has 3,500 inmates. It is reached from Santa Monica by a street-car line.

Between Santa Monica and Redondo half a dozen beach resorts have been built up during the past few years, and have become extremely popular with Los Angeles people, as well as visitors from the interior.

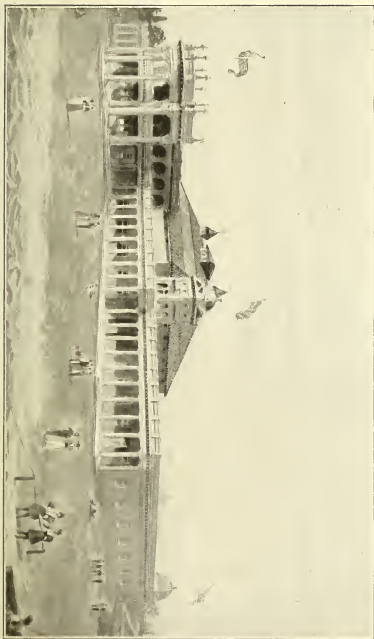
Ocean Park.—Adjoining Santa Monica on the south is Ocean Park, a settlement that has grown up like magic during the past five years. It extends for over a mile along the beach. There are several piers, a pavilion, bathhouse, etc. Ocean Park has become a favorite home for Los Angeles business men, the frequent car service making it easy to reach town.

Venice.—Venice is an ambitious replica of the Italian city of the same name, with miniature canals and Venetian architecture. The good ship Cabrillo, built on wharves, is an imitation of the vessel in which Cabrillo visited Southern California, centuries ago. It serves as a restaurant. Venice is something of a Los Angeles Coney Island, offering many entertainments to the visitor.

Venice is unique among the seaside resorts of the Pacific coast, and in some respects has no counterpart in the country.

Playa del Rey.—About a mile south of Venice, on the electric line that skirts the beach, is Playa del Rey, situated on a lagoon, that affords still water amusements. A large amount of money has been expended here during the past few years by the electric railroad company that owns the resort. It promises before long to become one of the most attractive places on the ocean front of Los Angeles county.

A Fine Beach.—Between Playa del Rey and Redondo is a long stretch of one of the finest beaches on the Pacific coast, wide, hard and level. Here, in order as named, are



LONG BEACH BATHING PAVILION.

the settlements of Manhattan Beach, Shakespeare and Hermosa Beach. A number of neat cottages have been erected here with piers, lighting and water systems, pavilions, etc. This is one of the few stretches of beach on the Los Angeles coast line where residence property may still be purchased, close to the ocean, at a price within the means of the modest home seeker.

Redondo.—A seaside resort and shipping port connected with Los Angeles by the Southern California Railway, and by two electric lines. There is a large hotel, surrounded by



HOTEL AND BEACH, REDONDO.

well-kept grounds. From two wharves excellent fishing may be had. There is a swimming bath, a pebble beach, and a fine nursery, where may be seen growing several acres of carnations. Pacific Coast steamers stop here regularly. Redondo has an electric-lighting system, good streets and sewers. There is a big power house of the Pacific Electric Railroad. Many important improvements are under way at this place.

San Pedro.—San Pedro is the leading port of Southern California. There arrived during the year 1906 at San Pedro, the gateway to the Southwest, 973 steamers, 368

coastwise sailing vessels and 6 foreign ships, having a net tonnage of 645,907 tons. The vessels carried in crews 24,984 men, or an average of 2,082 men for each month. The imports of lumber last year amounted to over 450,000,000 feet.

The big government breakwater, costing \$3,000,000, is approaching completion and already furnishes shelter to vessels. When finished, the inner harbor dredged, and wharves constructed, San Pedro will be one of the best harbors of commerce and refuge in America. Plans are under way to establish lines of steamships from San Pedro to the Orient, to Hawaii and to South American ports.

An electric line runs from San Pedro a few miles to White's Point just beyond the Point Fermin lighthouse. Here there are seal rocks and glass bottom boats, to view sub-marine wonders.

Wilmington.—On the inner harbor, northeast of San Pedro, lies Wilmington, the old port of Los Angeles. This place looks today as it did fifty years ago, when Dana landed there, as described in his "Two Years Before the Mast." With the dredging of the inner harbor, however, Wilmington is destined to become a place of great importance, holding, as it does, the key to the situation to the harbor, between San Pedro on the one side and Long Beach on the other. Several manufacturing industries are arranging to locate here. An electric railroad connects Los Angeles, Wilmington and San Pedro. The longest street car trestle in the world extends between the two places. Just back of Wilmington is the old home of the Bannings. John Phineas Banning, father of the Banning Brothers of Los Angeles, was the pioneer of Wilmington, naming it after his old home, in Delaware.

Terminal Island.—Across the bay from Wilmington lies Terminal Island, a narrow peninsula. This is a summer resort, with a number of cottages, owned mainly by Los

Angeles business men. The inner harbor affords still water bathing and boating.

Long Beach.—No city in Southern California, outside of Los Angeles, has gone forward with such gigantic strides during the past few years as Long Beach, the handsome seaside metropolis on the border of San Pedro Bay. Ten years ago it was but a sleeping hamlet, alive for a few brief months of summer, when it was enlivened by camp meetings and religious gatherings from inland cities. Gradually it evolved from a camp meeting rendezvous and became known as the Queen of the Pacific Coast Chautauquas. Five years ago came the big exodus of tourists from the East, many of whom flocked to Long Beach, drawn there by the delightful sandy beach, broad enough for several vehicles to drive abreast and with a slope so gentle that bathers find it a safe and delightful playground. The population of Long Beach today is over 17,000 and the thickly settled suburbs would swell the total easily to 20,000 making her a close rival to Pasadena for the honor of being the second city in the county. She has become celebrated as a city that "does things" and no enterprise daunts her citizens, from the constructing of a \$100,000 cylinder pier extending 1,800 feet out into the ocean, to the erection of a magnificent 300-room tourist hotel to cost \$750,000, now under construction.

During the year 1906 buildings to the value of a million and a half dollars were erected in Long Beach. There are three parks, a fine pavilion and a capacious bath house. The water supply of Long Beach is pure and soft. Ten flowing wells supply daily over 8,000,000 gallons. Long Beach is connected with Los Angeles by two steam railroads and an electric line, a ten-minute service being maintained on the latter, the twenty-mile trip occupying only forty-five minutes. Long Beach has of late developed a number of minor manufacturing enterprises.

Citizens of Long Beach are building great hopes on the

proposed dredging of Wilmington harbor, up to their gates, making of Long Beach a commercial port. Then, with numerous factories on the lowlands, lying toward Wilmington, on the one side, and great seaside pleasure resorts on the other, citizens of Long Beach believe that they will be strictly "in it."

Huntington Beach.—This is a new resort near the line of Orange county. There is a three-mile ocean front boulevard. A tent city was established last summer. Back of Huntington Beach is a fertile peat country where train-loads of celery are raised for the eastern market.

Naples.—A new resort which has sprung into considerable prominence within the past year is Naples, located on the shore line of the Pacific, at the mouth of the San Gabriel River. A still-water inland bay forms one of the attractions and hundreds of thousands of dollars have been expended in dredging, constructing imposing bulkheads of reinforced concrete, and in creating the foundations for a splendid waterway city. The scheme is an ambitious one, planned in the most magnificent style. Some elegant residences are being built by Los Angeles men, and the spot is fast taking on the appearance of the grand resort it is designed to be.

Santa Catalina.—Is a picturesque island, about thirty miles in length, and about twenty miles from the mainland. It has come into great popularity during the past few years as a summer resort. It is reached by daily steamer from San Pedro. On the northern side of the island, being protected from the ocean swells, the water is remarkably calm and very clear, so that marine growths may be plainly seen at a depth of forty feet or more. There is fine still-water bathing, fish in immense quantity and variety, including mammoth jewfish weighing several hundred pounds, boating, Indian relics, stage-riding over the mountains, and other attractions. At Avalon, the main settlement on the island, there is a comfortable hotel, and a number of lodging-

houses, stores and cottages, which may be rented at a reasonable price. Many summer visitors live in tents or cloth houses. A fine band plays regularly during the summer. Catalina Island is in several respects the most interesting and unique seaside resort in California. The remarkable catches of big fish that are made there, including the noted tuna, a fish of wonderful gameness, bring visitors from distant points. A wireless telegraph system is in operation between Catalina and the mainland.

Through the interior are scattered a number of wild goats, which are often shot by visitors. The rocky formation along the coast is remarkable, showing traces of tremendous vol-



AVALON, SANTA CATALINA ISLAND.

canic action. At Empire Landing, seven miles from Avalon, are quarries of a fine green serpentine stone, which is used for mantels and ornamental work of various kinds, and has been utilized for the front of a building on

Broadway in Los Angeles. The ancient Indian inhabitants used this stone for household vessels and implements.

The Banning Brothers, who own Catalina Island, with its 50,000 acres of mountainous land, have established a second resort on a smaller scale at the Isthmus, twelve miles northwest of Avalon. Here the island is only a mile and a half wide, with a pretty little harbor on the other side.

There is so much on Catalina to interest the botanist, the geologist, the zoölogist and the lover of nature that months may be spent on this island, finding something new every day.

No visitor to Southern California should fail to visit Catalina, which is now run as an "all-the-year-round" resort.

THE SUNSET ROUTE—COLORADO DESERT.

Besides the Santa Fé Route, Southern California may be reached directly by the "Sunset Route" of the Southern Pacific Company, which enters the State at Yuma, Ariz., on the Colorado River, 247 miles from Los Angeles. This route traverses the Colorado Desert, one of the remarkable arid regions of the United States, some parts of which are several hundred feet below sea-level.



TWENTY-ACRE BARLEY FIELD.

San Gabriel.—Leaving Los Angeles, the Southern Pacific strikes a direct line East, running through the southern part of the San Gabriel Valley. Near San Gabriel station is the old mission, from which settlement the pueblo of Los Angeles was organized. It is in a good state of preservation, and services are still held there. At Bassett there is a short loop which curves up into the foothills of the Sierra Madre, and rejoins the main line at Pomona.

Puente.—At Puente, seventeen miles from Los Angeles,

are some of the most important oil wells in Southern California, which have been successfully operated for a number of years. There is a pipe line. The oil is of high grade.

Pomona and Ontario have been described in the chapter on the Kite-Shaped Track. The Southern Pacific runs through the heart of these places.

Beaumont.—At Colton, previously described, the Southern Pacific crosses the track of the Santa Fé system. Five miles farther on is a junction for Redlands. The train then begins a heavy ascent, climbing nearly 1,600 feet in twenty miles to Beaumont, which is at an elevation of 2,560 feet. This and Banning, the next station, are noted for their bracing and health-giving climate. Near Banning there is an Indian reservation.

The several thousand acres embraced in the Beaumont tract, which was subdivided during the real estate boom of twenty years ago, was recently purchased by an Eastern capitalist, who has placed the property on the market and the settlement is showing renewed life. The trees planted at the time of the first subdivision have made wonderful growth, and give the place the appearance of an old established settlement. The Southern Pacific Company is making additional improvements, and will employ a number of men here.

Soon after leaving Banning the traveler enters the Colorado Desert.

Palm Springs is an interesting little valley, located in the foothills, about seven miles south of the railroad. Here the mildness of the winter facilitates the culture of early fruits and vegetables. The earliest grapes and apricots received in Los Angeles usually come from Palm Springs. There is a little settlement in this valley, which is a unique corner of Southern California.

Indio.—Twenty-three miles beyond Palm Springs is Indio, an eating station on the railroad, twenty feet below sea-level. The hot, dry atmosphere of this section has caused it to be



SYCAMORE CANON, SANTA BARBARA, CAL.

frequented by consumptives, many of whom claim to have received great benefit. A large supply of artesian water has been developed near here, and early melons, together with other fruits and vegetables, are raised and shipped east.

Salton.—Twenty-five miles from Indio; is located in a depression of the earth's surface, 263 feet below sea-level. Here were important salt works, the salt being gathered from the bed of a dry lake, which since the overflow of the Colorado River, has become a great inland sea. It is generally believed that the Gulf of California once extended into the Colorado Desert, and marks of the old beach line are still visible along the hills.

Imperial.—A few years ago water was diverted from the Colorado river, and applied to the soil of the desert, for irrigation, resulting in the establishment of a series of settlements, the chief of which is Imperial, by which name the entire section is known. The soil of this region is of unknown depth and marvelous fertility, much resembling that of the valley of the Nile. Immense crops of corn, alfalfa and vegetables are raised, and many cattle and hogs have been shipped from this section to the Los Angeles market. In the 1905-1906 year a break occurred in the outlet of the Colorado river, where no proper headgate had been placed. This resulted in diverting the entire flow of the river northward toward the old Salton sink, the site of an ancient sea, which filled up, until it became more than fifty miles long and over fifty feet in depth, overflowing the tracks of the Southern Pacific railway, and necessitating the removal of the line several times to higher ground. By an expenditure of several million dollars the railroad company succeeded in damming the flood and restoring the river to its old channel. The railroad from San Diego to Yuma will tap this region. There is a branch from Old Beach to Imperial.

As a result of the rapid development the county of Imperial was formed in 1907, being carved out of San Diego county. The county seat is at El Centro.

THE COAST LINE—SOUTHERN PACIFIC.

The two northwesterly counties of Southern California, Ventura and Santa Barbara, are not so well known to tourists as they deserve to be. It is true that most visitors to Southern California take in the beautiful city of Santa Barbara, but this is about all that most of them see of these two interesting and important counties, which are not only exceedingly fertile, but contain some of the most varied and beautiful scenery in the State. Both Ventura and Santa Barbara counties are reached by branches of the Southern Pacific system, which leave the main line at Burbank and Saugus. Leaving Los Angeles, the railroad runs along the valley of the Los Angeles River, through a moist section of country which is green even during the dry season. At Tropico is a tile factory. This is a center of strawberry culture. Nearby is Glendale, one of the rapidly growing residence suburbs of Los Angeles.

Burbank.—Eleven miles from Los Angeles; is a little town pleasantly situated on a sloping tract of land at the foot of the mountains. It was laid out toward the end of the real-estate boom in 1887 as a suburban residence place for Los Angeles people, but did not make much progress. Burbank will soon have an electric road. At Burbank is the junction of a cut-off to Ventura going through a long tunnel. The section along the west side of the valley here around Toluca is becoming noted for its fine deciduous fruit.

San Fernando.—Shortened by railroad parlance to Fernando; is chiefly of interest to the traveler as the site of one of the old missions. The building, which has to some extent been repaired by the Landmarks Club, is a short drive from the station. Near it are some large old olive trees, which still bear a crop, and the largest olive grove in the world.

Camulos, the residence of the Del Valle family, is a picturesque old homestead of the Spanish type, which has been

immortalized in the book "Ramona." It stands a short distance to the left of the station of that name.

Piru.—The next station, is situated in a very large area of deciduous fruit orchard, covering several thousand acres, which was laid out on a systematic plan by a well-known Chicago man. It was not a success. There is also some gold mining in the neighborhood. The first gold mine in California was found near here. The district is now being worked for petroleum. Santa Paula is one of the principal towns of the county. There are large lemon groves in the neighborhood and several curing houses. Asphalt and petroleum are also produced.

Oxnard.—Seventy-eight miles from Los Angeles, at Montalvo, is a junction of the branch to Oxnard, where is located one of the largest beet-sugar factories in the world. Here a flourishing little city of over 3,000 population has been built up.

San Buena Ventura.—Called Ventura for short; eighty-three miles from Los Angeles; is picturesquely located on sloping ground, facing the ocean. There are good churches, schools, and residences, and some solid business blocks. A fine avenue extends for several miles along the bank of the Ventura River. A short distance back of the town is the old mission. Ventura is the center of the lima bean industry.

Matilija Hot Springs.—These highly medicated springs are located in the romantic Matilija Cañon, five miles from Nordhoff on the Southern Pacific Railway, and are reached by a branch line and stage. The settlement has a post-office, long distance telephone, a general store, cottages, tents, and other conveniences for visitors making use of the waters.

Ventura is one of the richest, as well as the most picturesque, counties in the State, and the visitor who has sufficient time to spare may profitably spend a week or two in a hunting and fishing expedition through its mountains.



"CABRILLO," SHIP HOTEL, VENICE OF AMERICA.

From a material point of view, Ventura is one of the most thrifty and prosperous counties of Southern California. Its chief horticultural products are lima beans, sugar beets and lemons. It may truly be said that Ventura supplies the United States with beans.

Carpinteria.—Seventeen miles from Ventura; is in the county of Santa Barbara. All the way from Ventura to Santa Barbara the railroad runs close to the ocean, while on the other side, between the railroad and the low foothills, are a number of beautiful country homes, embowered in



A CATCH OF SEA BASS OR JEWFISH, CORONADO BEACH.

foliage. This strip of country is one of the choicest of Southern California, being almost entirely free from frost, so that in addition to citrus fruits, such delicate products of tropical climes as bananas and cherimoyas (custard apples) are raised.



GUARDIANS OF THE YOSEMITE VALLEY ON A FALLEN GIANT.

Summerland.—Five miles from Carpinteria; has the interesting spectacle of oil wells drilled below high water mark, from small wharves erected for the purpose. Summerland, which was started as a spiritualistic colony about 1889, has come to the front as a producer of petroleum.

Montecito.—Two miles east of Santa Barbara; is a charming residence suburb, where are some beautiful homes owned by wealthy people from the East.

Santa Barbara.—The city of Santa Barbara has a most picturesque location, on a sloping mesa, facing the ocean and islands, with the mountains in the rear, and foothills studded with live oaks, that furnish ideal residence sites. It is a well-improved little city, with a solid business section, mainly located on State Street, which is over a mile long and eighty feet wide, paved its entire length with asphalt. The city is brilliantly lighted. The chief hotel is crowded with tourists during the winter season. There is a fine paved boulevard, a mile in length, along the ocean front, and a first-class bath house.

Overlooking the town, in the foothills, is the old mission, the best preserved building of the kind on the coast, and still used for religious services.

Santa Barbara is largely populated by people of means, who have retired from business and settled down to pass their declining years in this paradise of the Pacific.

Those who so desire may reach San Francisco from Santa Barbara by the vessels of the Pacific Coast Steamship Company, which call regularly at Santa Barbara, Ventura and points farther south, as far as San Diego.

Ellwood.—This is the site of the well known olive ranch of Ellwood Cooper, one of the pioneers of olive growers in California.

Lompoc.—Sixty-five miles from Santa Barbara. This place was founded as a temperance colony, about thirty-five years ago. Large quantities of deciduous fruits, beans and mustard are raised in the neighborhood. Lompoc is not

on the main line of the railroad, but is ten miles distant, the trip from Surf occupying three-quarters of an hour.

San Luis Obispo.—One hundred and eighteen miles from Santa Barbara, and 230 miles from Los Angeles. The county seat of San Luis Obispo County, a picturesque section, which has until recently been out of the world, through lack of railroad transportation, but now promises to forge rapidly to the front, it being a fertile county and well watered. The chief industry of the county, up to the present time, has been dairying, although quantities of grain, potatoes and fruits are raised. There are valuable mineral deposits in the mountains. Port Harford, the principal port of the county, ranks fourth in importance among the ports of California and its exports are heavy. It is reached by a short branch line from San Luis Obispo. The city is beautifully located in a pleasant valley surrounded by rolling hills and picturesque and lofty mountain peaks. Ten miles from San Luis Obispo beach resorts have been laid out and known as Oceano and Pismo Beach.

Paso Robles.—Thirty-six miles from San Luis Obispo. Is noted for its hot sulphur springs and mud baths. There are also large warehouses here.

Salinas.—Ninety-nine miles from Paso Robles, is in Monterey County and the county seat. It is celebrated as being the location of the great beet sugar factory of Claus Spreckels, the largest in the world.

At Salinas and again at Castroville, thirteen miles farther north, a branch line of railroad runs to the city of Monterey.

Further particulars in regard to the counties of Monterey, Santa Cruz and Santa Clara will be found on following pages.

SAN JOAQUIN VALLEY AND YOSEMITE.

The San Joaquin Valley, which embraces a considerable portion of central California, is one of the important productive valleys of the world, extending unbroken from the Tehachapi Pass on the south to the Sacramento Valley on the north, a distance of about 300 miles from north to south, by an average width of 100 miles. On the east it is bounded by the Sierra Nevada range of mountains, some of which are snow-capped in winter, and on the west by the lower coast range, which shuts it out from the ocean and to some extent accounts for its torrid atmosphere, for even the greatest boomers of the valley are forced to admit that the thermometer does climb to a high point in summer—although, as in other sections of California, the exceeding dryness of the atmosphere makes the heat far more endurable than an equal temperature would be on the Atlantic coast or in the Middle West.

The San Joaquin Valley is the great granary of California, producing an immense amount of fine grain, which is harvested in the most modern, approved fashion. Owing to the fact that grain is the leading crop throughout a great part of the valley, employing thousands of transient workmen for a few months of the year, settlement has not until recently progressed so rapidly as in some other parts of the State, although here and there, where irrigation has been introduced, flourishing horticultural settlements and towns have sprung up. As irrigation is extended, this great valley will, before many years, become a succession of small homes, surrounded by orchards and gardens, in place of the present vast fields of waving grain or dry stubble.

The high price reached by lands south of the Tehachapi, placing most of them out of reach of those who desire to carry on general farming, has, during the past year,

led to a movement for the cutting up and colonization of the fertile lands of the San Joaquin Valley.

The main line of the Southern Pacific Company runs directly through the San Joaquin Valley, on the road from Los Angeles to San Francisco. The valley is also reached



CATHEDRAL SPIRES, YOSEMITE VALLEY.

by the Santa Fe system, which runs through trains between the East and the southern part of the State and San Francisco, by way of Mojave, using Southern Pacific tracks from Mojave to Bakersfield.

The San Joaquin Valley is not frequently visited by transient tourists, excepting those who are bound for the Yosemite Valley, yet there are some points of interest in and around this great valley which should not be overlooked by those who have a little time to spare for the special features characteristic of the region.

In certain portions of this valley the scenery is majestic and well worth seeing.

After leaving Saugus, the junction for Santa Barbara, referred to on a previous page, which lies at an elevation of 1,150 feet, the grade rises rapidly, until the line passes through a western extension of the great Mojave Desert,



YOSEMITE FALLS.

known as Antelope Valley. This valley has been settled up by many industrious farmers, attracted by cheap land. Fine grain has been raised and also, more recently, deciduous fruits, especially raisins and almonds. There are a number of artesian wells in the valley. The three dry seasons of 1897-99 were particularly hard on the settlers of this section, causing some homes to be abandoned.

At Mojave is the junction with the line of the Santa Fé system previously referred to. This is an eating station.

Tehachapi.—Here an elevation of 4,025 feet is reached. This is a most romantic piece of scenery. The work required the expenditure of much money, as well as mechanical ingenuity, on the part of the railroad company. Ten miles beyond the Tehachapi is the "loop." Altitude 3,050 feet. Here a complete loop is made in the railroad. The length of the loop is 3,795 feet; the altitude at the crossing over the tunnel, 3,034 feet; and the altitude of the tunnel, 2,956 feet, a local advantage of seventy-eight feet in elevation being thus gained. The grade is heavy and continues for many miles—through Keene, 2,705 feet; Bealville, 1,793 feet; Caliente, 1,290 feet; Pampa, 672 feet; Wade, 567 feet, and then we have fairly entered the San Joaquin Valley.

Bakersfield.—Is the chief city of the great county of Kern, located on the Kern River. Here is the junction of the Santa Fé line. From this point to the north the journey may be made either by the Southern Pacific or Santa Fé, the two lines running most of the way within a few miles of each other. This is a well-watered section, there being over 700 miles of ditches taking water from the Kern River, and all around may be seen vast fields of alfalfa and grain, as well as vineyards and orchards. There is also an artesian belt, and around here is the most important petroleum producing section of California.

Bakersfield expects soon to be connected with the coast by two routes, an electric line to Ventura and a broad gauge

line of railroad to Port Harford, in San Luis Obispo County.

Under the influence of oil development Bakersfield has become an important town. A \$50,000 high school, a \$40,000 Catholic church and a \$60,000 theater are among the improvements of the past year.

Visalia.—At Tulare, in the county of that name, is a junction with a branch line to Visalia, the county seat. Tulare Lake is a large body of water surrounded by marshes, to the west of the railroad.



KEARSARGE PINNACLES AND LAKES, KINGS RIVER.

Along the foothills of Tulare County is a section in which it has been found that citrus fruits flourish as well as they do in the lower tier of counties. The principal places in this belt are Porterville and Lindsay. Shipments of oranges from this section are made early, and have become quite important. As long as twenty years ago, when the first citrus fair was held in Los Angeles, Porterville obtained the first prize for its seedling oranges.

Mount Whitney.—From Visalia a pleasant excursion may

STOCKTON HARBOR.



be made during the summer months, by those who are hardy and accustomed to rough it, up to Mount Whitney, the highest point of the United States, outside of Alaska, over 18,000 feet above the sea.

Hanford.—This is the county seat of the small county of Kings. It has an artistic courthouse and is the center of a rich agricultural section, with a complete modern irrigation system.

Fresno.—Is the most important city of the San Joaquin Valley. It is a bustling, well-built place, and the center of a considerable amount of business. Fresno had its birth in the early seventies, as the site of several horticultural colonies, located on what was then a great grain field. A specialty was made of the culture of the raisin grape, and that is still the leading industry of this section. The great vineyards, with their modern appliances, are worth visiting. More than half of the crop of the San Joaquin, estimated recently at 56,000 tons, is produced around Fresno. The raisin crop of 1906 netted the growers \$4,000,000. Fine wine and brandy are also made here. A Federal building to cost \$117,000 is under construction.

Owing to the fact that it receives so much sunshine, the grapes of the Fresno region contain too much sugar to make first class light wines. This has led to the development of a new viticultural industry, namely, the regular shipment of heavy Fresno wines to Europe, where they are used to blend with the lighter wines of France and Germany.

In the coast range, in the western part of Fresno County, has been developed an important field of petroleum, the wells yielding a large amount of good oil. It is a desolate and forbidding region, exceedingly hot in summer.

Back of Fresno, in the Sierra Nevada range, is some remarkably grand scenery, considered by many to equal that of the Yosemite Valley. An electric line from Fresno to the valley has been surveyed and will be built.

Madera.—In the county of the same name which was recently carved out of Fresno. The mountains in the vicinity contain much valuable timber land. Near the town is a large vineyard, surrounding a winery, with a capacity of 2,000,000 gallons.

Berenda.—Twenty-nine miles from Fresno; is the junction with a short branch line to Raymond, on the east, two miles in length, where connection is made by stage for the celebrated Yosemite Valley and the Mariposa Big Trees.

The valley may also be reached from Merced by way of the Yosemite Valley Railroad. As stated, an electric road is to be built from Fresno.

Modesto.—In Stanislaus County, a prosperous and lively place, the shipping point for the vast quantities of grain produced on the big ranches.

Five miles before reaching Modesto is Ceres. Near here a large colony was recently established.

Modesto has the advantage of possessing an ideal irrigation system, known as the "Turlock." All land in this section has water attached to it, so that it cannot be taken away.

Lathrop.—A dining station; is an important junction with the line running northward through Stockton to Sacramento, the direct line to San Francisco and other points on the coast.

Merced.—Twenty-six miles from Berenda; is the county seat of the county of the same name, where there is a large amount of good agricultural land. Grain is the principal crop raised, but, with the extension of irrigation, the horticultural industry is becoming more important. Connection is here made with the new Yosemite Valley Railroad to El Portal for the wonders of the Yosemite National Park.

YOSEMITE VALLEY.—This remarkable valley of the Sierra lies in Mariposa County, at an elevation of 4,060 feet, and 4,000 feet below the crests of the inclosing mountains. The valley proper is seven miles long and its greatest width is

two and one-half miles, although it is for the most part from one-half to three-quarters of a mile wide. The Merced River, a tributary of the San Joaquin, flows through its gorges and between banks decked with flowers or shaded with cedars, silver pines and oaks. The walls of the Yosemite are of granite, and stupendous in magnificence. On the northern side stands El Capitan, a mass of bare granite 3,300 feet high; the Three Brothers, Yosemite Point, the Royal Arches, Washington Tower, and the North Dome. On the southern side are Inspiration Point, Cathedral Rocks, Cathedral Spires, Sentinel Rock and Dome, Glacier Point, and the wall of the Tululawiak Cañon. At the eastern end are Grizzly Peak and Half (or South) Dome, the latter rising to a height of over 4,000 feet above its base and crowned with a summit whose area is ten acres. There are nine principal waterfalls.

There are good hotel accommodations in the valley. On the road the Mariposa Big Trees can be visited. These are over 400 giant sequoias, the largest of which is thirty-four feet in diameter, the height ranging from 150 to 300 feet. A cut has been made through the standing trunk of one of them large enough to permit the passage of a stage coach with its load of passengers.



VIEW OF THE LA GRANGE DAM IN THE MODESTO-TURLOCK DISTRICT.



MIRROR LAKE.

THE SACRAMENTO VALLEY.

The valley of the Sacramento is little visited by Eastern tourists, yet it is interesting, as furnishing a different style of scenery from that which is found in other parts of the State. There is a wide river of large volume flowing through a level country of remarkable fertility, aligned by marshes and productive orchards.

Stockton.—Nine miles from Lathrop is Stockton, a manufacturing center, where a large number of skilled workmen are employed. A specialty is made of agricultural machin-

ery and windmills. Stockton flour has a wide reputation. This is the only place in California where natural gas is utilized on a large scale from numerous wells. Cheap transportation by steamships on the San Joaquin River gives Stockton a great advantage. Over twenty steamers with barges are kept busy plying between Stockton and various



MAIN STREET, STOCKTON.

points on the San Joaquin and the interior waters of the State. There are regular lines of steamers between Stockton and San Francisco. Stockton is a great center for the grain trade. The San Joaquin River is navigable for 150 miles south of Stockton. Vegetables are raised on a large scale on the rich bottom lands of the San Joaquin river. A heavy flood visited this section in March, 1907, doing much damage.

A movement is now on foot to get the Federal government to expend a large amount of money in deepening the

channel of the San Joaquin river, as far as Stockton, so that the city may have the advantage of water transportation on a much larger scale.

Sacramento.—Forty-eight miles from Stockton is Sacramento, the capital of the State. The dome of the handsome capitol building is visible for a long distance.

The Sacramento Valley was settled by a few white people, even before the arrival of the goldseekers in 1849. It is one of the most fertile valleys in the world. Several of the



CITY HALL, STOCKTON.

islands in the river, which have been reclaimed by levees, produce enormous crops of fruits and vegetables, and San Francisco depends largely upon this section for its supplies. For over thirty miles along the banks of the Sacramento River may be seen a continuous growth of bearing trees and vines. The Bartlett pears and the peaches raised here are especially fine, commanding a high price in the Eastern market. Several large steamships are kept busy during the

season, carrying the fruit crop to market. The views along the river are charming, the magnificent orchards and handsome residences suggesting prosperity and comfort. Floods visited this section also in March, 1906. Sacramento claims the largest hop field in the world and is a great producer of that staple.

The city of Sacramento is compactly built, the streets being broad and heavily shaded. It is a railroad center for the middle and northern parts of the State, and is fast becoming a great manufacturing center, with mills, factories, canneries and wineries, which give employment to thousands of people. The Crocker Art Gallery is a fine building, presented to the city by Mrs. E. B. Crocker. The State capitol, which stands in the heart of the city, surrounded by a beautiful park, is a classical structure which cost over \$3,000,000. The shops of the Southern Pacific Railway Company cover over twenty-five acres and employ several thousand men.

The State Legislature has passed a bill to submit to the people the removal of the capitol from Sacramento to Berkeley. It is not generally believed it will carry.

Folsom.—The second city of Sacramento County, located in the foothills; is the site of one of the two State penitentiaries. There is here a very large orchard and vineyard, covering several thousand acres, with a fruit dryer and winery in connection.

THE SIERRA NEVADA.—The tourist in California, who can spare a couple of weeks for the purpose, will be liberally rewarded by a trip through the old gold mining sections of the Sierra Nevada Mountains, in which there has been quite a revival of mining operations during the past two years, while orchards and vineyards have been extended on all sides. The scenery of this section is most picturesque, with small foothills and rugged mountains, snow-clad in winter, while the climate, especially in the more elevated sections, is extremely bracing.

The main line of the original transcontinental railroad, the Central Pacific, traverses Placer County after leaving Sacramento, winding through picturesque gorges, and around the sides of precipitous mountains, where a vast amount of expensive railroad work has been necessary, as well as long snow sheds to protect the road in winter. At Roseville Junction the Southern Pacific Company is spending several hundred thousand dollars in shops, roundhouse, side tracks, etc.

Auburn.—The chief town of Placer County; is a pretty place surrounded by live oaks.



LAKE TAHOE, FROM CAVE ROCK.

LAKE TAHOE.—Truckee, just beyond the confines of Placer County, is the place of departure for Lake Tahoe, a beautiful body of water in the high Sierra, surrounded by snow-capped mountains. It has a national reputation. It is twenty-two miles long, ten miles wide and 1,700 feet deep, at an altitude of 6,220 feet. Tahoe is well supplied in summer with hotels, bathing and fishing conveniences, the lake being well stocked with fine trout. There are excursion steamers on the lake, and the mountain scenery

surrounding it is grand. A railroad is in operation from Truckee to Lake Tahoe, a distance of fourteen miles.

Next to Placer County, on the north, is Nevada County, where some of the most active mining operations were carried on in early days. The greater part of the county is wild, rugged and mountainous, yet there are about a quarter of a million acres of agricultural land where fine fruit is raised. Few counties have such an abundance of water stored in artificial reservoirs along the summits of the mountains. These were originally intended for mining purposes. The first gold quartz mill erected in the State was built near Grass Valley, in 1850. There are still good paying mines in that section. The fruit of Nevada County has earned a wide reputation.

Nevada City.—A branch railroad runs from Colfax, on the Central Pacific, to Nevada City, where are a number of quartz mills and some foundries.

Sierra County, as its name indicates, is emphatically a section of mountains of the rugged, saw-tooth variety, with precipitous sides, almost inaccessible summits and small valleys in between. The scenery is characterized by sublime grandeur, waterfalls, torrents, lakes, forests and grassy meadows combining in the production of an Alpine scenery. The entire county has an elevation of from 2,000 to 4,000 feet, and peaks running up to 9,000 feet. It is claimed that Sierra has produced more gold than any other county in the State. One hundred and ninety million dollars worth of the precious metal has been taken from the rivers, gravel deposits and quartz veins of Sierra County, during the past sixty years. The production is still considerable. In some years the snow falls to a depth of twenty feet on the highest ridges, and snowshoes are commonly used.

Downieville.—Is the county seat, at an elevation of 3,000 feet. The county is reached by a branch railroad, eighty miles long, from Reno, in Nevada.

Plumas is strictly a mountain county, extending on its

eastern border to the crest of the Sierra Nevada range. Its scenery is wild and picturesque, being made up of snow-covered mountains whose slopes are clothed with magnificent forests, high ridges alternating with dark cañons and ravines. From the base of the Sierra divide a series of valleys stretch across the country in a southeastern direction, connected with each other by cañons, passes or low divides. The highest mountain is Lassen's Peak, 10,777 feet. The only means of communication is by stage. Gold mining is the chief industry. The construction work of the Western Pacific (the Gould line) has turned a great flood of money into this county of late.

Quincy.—Is the county seat, with an altitude of 4,000 feet.

Returning to the Central Pacific line, on the south of that road is the county of El Dorado, a section of rolling hills and narrow valleys, with scattered oak timber, and a belt of prairie land and foothills along the western border, where fruits flourish. Gold was first found in this county, at Coloma, and it is estimated that the gold yield of the county up to date has been over \$100,000,000. The chief industry of the county at present is lumbering.

Placerville.—The county seat is connected with Folsom by railroad. Part of Lake Tahoe lies within the limits of this county.

Ione.—South of El Dorado is Amador County, the eastern section of which extends along the high Sierra, the surface being cut into deep ravines. There are many quartz mills in Amador County; also quarries of valuable building stone. Amador now ranks third among the counties of the State as a gold producer. It also has vast timber resources. Ione is the terminus of a railway. Here are coal mines.

On the western slope of the Sierra, nestled among its foothills, and extending into the great valley of the San Joaquin, is the county of Calaveras, almost a triangle, fifty-four miles in length northeast and southwest, and thirty-two miles across its western border. The county lies just

north of a line drawn across the State due east from San Francisco. It may be described as an aggregation of rolling hills and small valleys. A large number of these fertile valleys extend among the adjoining hills, which at places assume the proportions of mountains. The hills are usually covered with a light growth of oak or pine timber.

The entire county is practically a bed of mineral deposits, gold predominating. The largest nugget of gold ever found



IN CALAVERAS GROVE.

in California was discovered in 1851 at Carson Hill, in this county. It was valued at \$43,533. On the eastern border of the county are the celebrated Calaveras Big Trees. Thirty of them exceed seventy-five feet in circumference each. Five men worked for twenty-two

days with augers severing the trunk of one of the largest trees, which was 302 feet high and 96 feet in circumference at the ground. Upon the stump thirty-two people have danced four sets of cotillions at a time. A railroad is being graded from Valley Springs, via San Andreas, to the Big Trees. It will tap a great lumber region. A power company is constructing an impounding dam, with a capacity of hundreds of millions of gallons. The western section of the county is reached by railroad from Stockton and Lodi.

San Francisco.—Since the previous edition of this guide was published a terrible calamity overtook San Francisco, and several of the nearby towns. On the 18th of April, 1906, in the early morning hours, while most people were still asleep, occurred the most severe shock of earthquake

that has visited San Francisco since it was founded. This was followed by several slighter shocks. The earthquake damaged a number of buildings and caused some loss of life. It was, however, but a trifle in the comparison with the catastrophe which immediately followed. Fire at once broke out in a number of places. The water pipes had been broken by the shock, so that no water was available for the putting out of fires. Hence, the conflagration had its own way. For several days it raged, until it had practically destroyed the entire business portion of the city, and a con-



CLIFF HOUSE.

siderable part of the near-in residence section. It was finally stopped at the wide avenue of Van Ness, by the heroic use of dynamite, in blowing up fine residences.

While the fire was yet burning, subscriptions were started in all parts of the country, and relief trains, containing provisions, were rushed to the unfortunate houseless people, a majority of whom were gathered in the public parks, where



MARKET STREET, SAN FRANCISCO, BEFORE THE FIRE.

many of them remained for months. Rich and poor alike had to stand in line, and take their allotment of food, just as people did in Paris during the siege.

For a few days the people of San Francisco were dazed, but not for long. Steps were immediately taken toward the rebuilding of the city, on broader and better lines. How much has been accomplished may be gathered from the statement that, ten months after the calamity, over 5,000 permits for permanent buildings had been granted, not including many more thousand permits for temporary structures. So far, \$65,000,000 had been invested in this work, and it was estimated that during the year 1907 \$100,000,000 more would be spent.

It may safely be said that no city has ever made so rapid a recovery from an awful disaster as has San Francisco, since the earthquake and fire.

From Lathrop, the traveler to San Francisco by the San Joaquin Valley route, proceeds westward through Tracy, where there is a junction for Fresno, and then along the northern coast of Contra Costa County, by the shore of San Pablo Bay, through Martinez, the county seat of Contra Costa County, past Port Costa, where the largest ocean-going ships find accommodation, through Vallejo Junction, where there are large smelters. Along the water front are great docks and warehouses. In the center of this county is Mt. Diablo, an isolated volcano-like mountain, 3,860 feet above the sea, from the summit of which there is a magnificent view over a territory as large as the State of New York. At Oakland (concerning which more will be said later on) the train runs out on a long wharf, and the traveler takes the ferry for San Francisco. On this route are to be found the finest ferryboats in the world, with spacious and comfortable waiting rooms. The distance between the water front of San Francisco and Oakland is about six miles, but the ferryage has been reduced to about four

miles, by building moles and wharves out into the bay. The time occupied in crossing is about seventeen minutes.

Seen from the approaching Oakland ferryboat, this city, even so soon after the fire, makes an impressive appearance, especially at night, when ablaze with lines of light climbing its hills. A good view of it can be had from several of the



CITY HALL DOME.

hills, where the traveler sees at a glance the whole city: the busy wharves and the bay; the safest harbor in the world.

In 1777 the Mission church of San Francisco was founded. It still stands, at the corner of Dolores and Sixteenth streets. The adobe walls are three feet thick, resting on a low foundation of rough stone. The walls remain and the church is still used for the purpose of worship. Adjoining it is the old Mission cemetery.

It was not until more than seventy years later, in 1849, that San Francisco began its wonderful modern growth, with the discovery of gold, which brought to the Golden Gate the great army of adventurous people from all parts of the world. Some years previous to that time there had grown up, on what was then the water front of San Francisco Bay, a little settlement, three miles from the Mission, known as Yerba Buena (Good Herb). In 1847 the name of San Francisco was officially adopted.

San Francisco Bay is one of the largest and finest land-locked harbors in the world, and rivals that of Naples in its picturesque scenery. Forty miles of bay lie south of San Francisco, and twenty-five extend northward, connecting with San Pablo Bay, which is about fifteen miles in diameter. The average width of San Francisco Bay, as a whole, is about eight miles, and the irregular shore line is more than 300 miles in length, making about 1,600 square miles, including Suisun Bay and other branch bays. The two largest rivers in the State, the Sacramento and the San Joaquin, flow into this interior body of water, reaching the Pacific Ocean through the Golden Gate. Viewed from any one of the many surrounding hills, the bay, with its hundred ships laden with the products of every clime, together with a multitude of lesser craft, affords a scene that stands unrivaled in its varied beauty.



CALL BUILDING.

The Golden Gate, the famous entrance to the Bay of San Francisco, is about three and one-half miles long by one mile in width, and from 100 feet to 300 feet in depth, forming a magnificent highway from the broad Pacific Ocean to the harbor.

Near the eastern extremity of the Golden Gate stands

Alcatraz Island, like a grim sentinel, guarding the entrance to the harbor, bristling with cannon and keeping watch and ward over the city. Still to the northward lies Angel Island, a military reservation and post. Goat Island is directly opposite the city, between it and Oakland, and is owned by the United States.

San Francisco, which contains a population of about 350,000, is built on more than a score of hills, from the summits of which are afforded magnificent panoramic views of the harbor and surrounding territory. Market Street is the main thoroughfare, and is to San Francisco what Broadway is to New York. It begins at the bay and extends southwest three miles. Market, Kearney and Montgomery were previously the leading streets for the retail trade, although since the fire it has moved out to Filmore Street and to Van Ness Avenue—as some believe, only temporarily. The residence quarters are occupied almost exclusively by frame houses, the mild climate giving them the preference over any other description of dwelling. On the streets lying west of Van Ness Avenue the visitor may see a larger number of handsome frame residences than he will find elsewhere within the same space in any city of the world.

There is no city in the United States where so large a proportion of the population dwell in hotels and boarding houses, and there is no city of the size where the hotels, boarding houses and restaurants have been so numerous and so reasonable in price as in San Francisco. The well-known Palace Hotel was one of the largest in the world, with accommodations for 1,200 guests, and costing, with all its equipments and furniture, about \$7,000,000. It is being rebuilt.

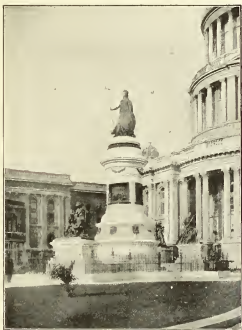
One of the most beautiful hotels in the world—beautiful architecturally, and in its commanding location—is the Fairmont, on Nob Hill. From almost any point on the bay this classical piece of architecture dominates the city, like the Acropolis at Athens.

The city hall, badly shattered by the earthquake, having been poorly built, is one of the largest buildings of the kind in the United States, with a tower having an elevation of nearly 450 feet. The cost of this building was about \$6,000,000. The United States mint, on Fifth and Mission streets, is the largest in the country, with machinery of the latest pattern. When worked to its full capacity the mint can coin nearly one million ounces per month.

San Francisco does not have a great reputation abroad as a religious city, yet it was well supplied with churches, there being about 120 church organizations. The handsomest church building was the Jesuit College of St. Ignatius, on Van Ness Avenue. There were nine public libraries in the city, well supplied with books and reading rooms, and many large private libraries.

Numerous places of amusement in San Francisco are being built to supply varied attractions that meet the demands of every class. Most of the leading theatrical troupes visit San Francisco during the year, and are welcomed by appreciative audiences.

A recent estimate before the fire gave San Francisco 340 clubs and societies, or a club to about every thousand of the population. The Bohemian Club and the Olympic Club, the latter an athletic organization, had obtained a world-



LICK MONUMENT.

wide reputation. There were seventy-five free public schools, and a number of business colleges and private schools.

There are about thirty public parks and squares distributed over the city, but of these little is known to the outside world beyond the Golden Gate Park, which has a reputation wherever the name of San Francisco is known. This tract, of over a thousand acres, lying between the city and the ocean, was, until within a generation ago, simply an expanse of dry sand dunes, upon which it seemed impossible to make any vegetation grow. The location of the park is superb, overlooking the Golden Gate, with hills on the south, and the busy city on the east. There are winding drives, conservatories, playgrounds, lawns, lakes, speed tracks, a well stocked art building, deer park, Japanese garden and numerous statues. The visitor should ascend Strawberry Hill, from which an enchanting view of the surrounding country may be had, embracing the city, the ocean and the distant mountains. There is an artificially constructed cascade, forming a beautiful waterfall from the top of the hill to the lake below. All of the city car lines issue transfers to the park.

The Cliff House, a well-known resort overlooking the breakers of the Pacific Ocean, is reached by transfers on all



LAKE, GOLDEN GATE PARK.

the car lines, or by a drive through Golden Gate Park. The old Cliff House was established here in 1863. It was destroyed by fire in 1894, when the modern building was erected by the late Adolph Sutro. From the broad piazzas and

balconies of this modern building there is a fine view of the seal rocks, with the breakers and the sea lions, whose

antics may be plainly watched as they disport upon the rocks.

The Cliff House was again destroyed by fire, last year. It is understood that it will soon be rebuilt.

Above the Cliff House, on the bluffs, is Sutro Heights, a beautiful residence and park, thrown open to the public by the late owner. Near by are the Sutro baths and museum, one of the greatest institutions of the kind in the world. The building is 500 feet long and 175 feet wide, with seating capacity for 3,700 people in the amphitheater, and promenade space for as many more. The large salt-water swimming tank is over 300 feet long. There are five smaller tanks, with 500 dressing rooms.

In the Sutro museum are curiosities and relics gathered by Mr. Sutro from various parts of the world. The collection of shells is one of the most complete in America. Beautiful plants and flowers make the museum resemble a conservatory.

One of the features of San Francisco before the fire was Chinatown. It occupied an area of about ten blocks. Among points of special interest were the pawnshops, the joss house, theaters and restaurants. If the visitor desires to proceed beyond the main streets he should take a reliable guide. Such may be found at the principal hotels. There were about 20,000 Chinese in this district, forming a separate community, a large proportion of whose members seldom came in contact with white people. Chinatown is being rebuilt on the old lines.

On Haight Street, near the park, are the Chutes and Zoo, a celebrated pleasure resort, where many attractions are offered to sightseers. Two blocks of land are occupied, the features, including "shooting the chutes," being the longest scenic railway on earth, extending 4,200 feet, and a large collection of wild animals. In a spacious theater vaudeville performances are given afternoon and evening, and in addition there is a photographic gallery, etc.

The Presidio and military reservation, comprising 1,542 acres, four and one-half miles northwest of the business center of the city, has become well known to the people of the United States since 1898 as the camping place of American troops on their way to and from the Philippine Islands. The reservation fronts on the bay for a mile and a half and for



CHINATOWN AS IT WAS.

nearly the same distance on the ocean. There is a regular drill every morning and a weekly inspection on Saturdays. The Presidio is reached by the California and Hyde Street cars transferring to the Union Street line.

A word or two should be said in regard to the climate of San Francisco, which is a peculiar one. There are few cities in the world which have such a

cool summer climate as this. Those who visit San Francisco during the summer should be careful to take plenty of warm clothing. It is a surprise to many to find people wearing overcoats and furs on an August afternoon, or sitting in front of a coal fire. The climate is very bracing. Those who do not possess a good circulation of the blood will be more comfortable on the other side of the bay. These remarks apply to the summer season. During the winter the climate of San Francisco is altogether delightful.

SUBURBS OF SAN FRANCISCO.—The picturesque Bay of San Francisco offers many attractive spots within a short journey from the city, and the transportation facilities are of the best. A dozen or more interesting points may be reached from San Francisco within a day's journey for the round trip, and many of them within a few hours.

The Western Pacific railroad (the Gould line) promises to add greatly to the development of San Francisco and the state at large. A vast amount of money has been expended in rights of way, depot and yard grounds and construction work. The company will operate a first class line of ferry boats across the bay of San Francisco. It was recently announced that on the western end of the road the motive power will be electricity, derived from mountain streams of California. It is understood that this system is to be extended into the southern part of the state.

Oakland.—The third largest city in the State. It is eight miles by the ferry, which runs every fifteen minutes. So many residents of the big city live in Oakland that it has been called the "bedroom of San Francisco." It is a city of well-paved streets, beautiful parks, many churches and attractive homes standing in lovely gardens. Oakland is noted far and wide for its floral wealth, in this respect equaling any city in the State.

Oakland received an immense impetus from the San Francisco catastrophe, thousands of people seeking homes and business locations on this side of the bay. The population is now estimated at 236,000, or, with Berkeley and Alameda, which practically form one city, 275,000, making it, as remarked, the third city in the State.

Oakland's manufacturing industries embrace several hundred establishments, which employ more than 30,000 men and have a pay roll of more than \$2,000,000 a month. The largest yards of the Southern Pacific are situated here and the company's shops alone employ more than 3,000 men. Among the recent industries established in Oakland are

the shops of the San Francisco, Oakland and San Jose Railway Company, where cars are being constructed at the rate of two a week. One of the largest refineries of the Standard Oil Company is situated in Oakland. An extensive plant for the manufacture of steel wire has been built and large iron and copper reduction works are projected. Ship-building operations have increased greatly during the present year. The eastbound and westbound freight handled annually at Oakland port amounts to more than 7,000,000 tons.



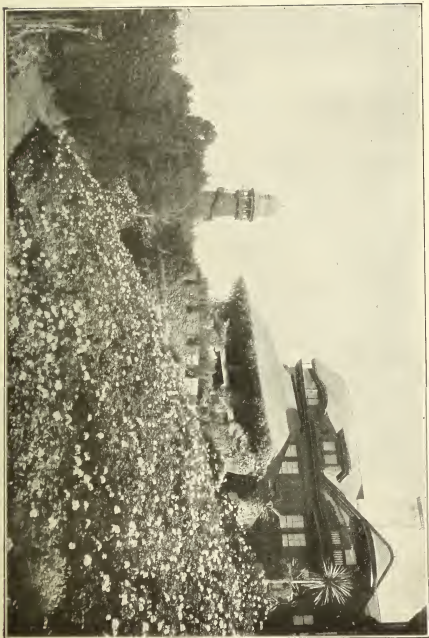
OAKLAND, LOOKING NORTH UP BROADWAY.

Street railways reach out in every direction with a total trackage of over 150 miles.

Lake Merritt is a water park of 240 acres, with three miles of winding shore, arranged for a boulevard. In the Oakland public library are over 15,000 volumes.

One indication of the growth of Oakland as a metropolitan city is the building of several large and thoroughly

WINTER IN OAKLAND, CALIFORNIA. HOME OF F. M. SMITH, THE BORAX KING.



first class hotels. One of these, the Bankers' Hotel, occupies an entire block.

Alameda.—Adjoining Oakland on the south, has a separate line of ferry from San Francisco, and is also reached by railroad, through Oakland. Like Oakland, it is largely populated by people who are in business in the big city, traveling across the bay every day. It has fine, level, wide streets, well shaded by trees, with a complete sewerage and



LOOKING ACROSS LAKE MERRITT, OAKLAND.

water system. The chief refinery of the Pacific Coast Borax Company is at Alameda. It turns out 1,000 tons of refined borax monthly.

Berkeley.—Adjoining Oakland on the north and connected with the outside world by electric and steam railroads, as well as by direct ferry with San Francisco. It is celebrated throughout the country and abroad as the site of

the State University. Its sloping foothills, overlooking the bay, and surrounded by numerous live oaks, afford an ideal location for such an institution. The scope of this institution is being greatly enlarged, through the generosity of a public-spirited California woman, Mrs. Hearst, wife of the late Senator Hearst, who, emulating the example of Mrs. Stanford, decided to put this university in the lead of all similar seats of learning in the world, at least so far as its housing is concerned. Preparations for this purpose have



PART OF THE UNIVERSITY OF CALIFORNIA.

been made on a most liberal and enterprising scale, and part of the plan has already been carried out in the shape of several artistic buildings. In the first place, Mrs. Hearst caused to be prepared a set of contour and relief maps, showing the location of the ground. Copies of these were forwarded to leading architects of the world, who were notified to compete with plans for a great system of university buildings. A preliminary inspection of the plans was made in Holland, by a jury appointed for the purpose. From sev-

eral hundred competitors, eleven were selected as being of special merit, and these gentlemen, with their plans, were brought over to California by Mrs. Hearst at her own expense. Then a final examination was had, the result being that the award was given to a French architect.

The accepted design is a dream of architectural beauty, the group of buildings bearing a marked resemblance to the Greek Acropolis, which is in striking harmony with the Grecian-like scenery of Berkeley. The architect has refrained, as far as possible, from interfering with the natural beauty of the surrounding landscape. The total cost of this great undertaking is estimated at between ten and fifteen million dollars.

As mentioned on a previous page, the State Legislature has passed a law to submit to the people the removal of the capitol from Sacramento to Berkeley.

Port Richmond.—This new town, at the bay terminus of the Santa Fé Railway, eight miles north of Berkeley, has been created during the past few years. It has already become an important manufacturing place. It is most conveniently located for water and rail shipping, as deep water can be found almost anywhere along the shore. Among the manufacturing industries established here are brick yards, furniture factory, smelters, salmon and fruit canneries, Union and Standard Oil works, powder works and sugar factory. Contra Costa County, in which Port Richmond is located, has now become the second manufacturing county in the State, being surpassed only by San Francisco, which is at present badly crippled.

Stanford University.—Thirty-three miles south of San Francisco, on the San Jose branch of the Southern Pacific, is Stanford University, founded in 1885 by the late Senator Stanford and his wife, as a monument to their son, Leland

LAOLINA DEL CAY
HOTEL DEL MONTE GROUNDS.



Stanford, Jr., who died young. The property, worth \$20,000,000, was transferred to a board of trustees. The university is surrounded by a magnificent park, several miles in circumference, a portion of which lies in a valley, the rest sloping gently to the hills on the south and east. The grounds are beautifully improved with trees and plants. The architecture of the buildings is graceful and unique, being patterned after the style of the old missions. There are twelve one-story structures of sandstone, connected by an arcade, around an inner court of three and one-quarter acres, paved with asphalt and ornamented with tropical flowers. Some of these buildings, including the chapel, were badly shattered in the earthquake of April, 1906.

Mount Tamalpais.—One of the most interesting trips to be made from San Francisco is that to the summit of Mount Tamalpais, a prominent conical mountain, rising to an elevation of 2,500 feet on the other side of the bay, north of San Francisco. The excursion is made by the Mill Valley & Mount Tamalpais Scenic Railway, which is reached by taking a ferryboat at the foot of Market Street and crossing the bay to Sausalito, where the train is taken through a picturesque country a distance of five miles to Mill Valley, where is a forest of redwood trees. Here connection is made by train for the summit of Mount Tamalpais, winding around the side of the mountain and paralleling its own track several times in the course of the ascent. From the summit is a magnificent view of the Bay of San Francisco and the ocean. The "Tavern of Tamalpais" is a comfortable mountain hotel, with broad verandas, and an immense open fireplace in the dining room. Visitors can stay over night on the summit if they so desire.

SANTA CLARA, SANTA CRUZ AND MONTEREY COUNTIES.—Some of the most picturesque and fertile country in California is embraced within the limits of the above-named counties, immediately south of San Francisco. They enjoy good

transportation facilities, Santa Clara County being connected with the chief city by three railroad lines, one on the west side of the bay and the other two on the east, while Santa Cruz and Monterey counties are reached either by the coast division of the Southern Pacific Company and thence by the Santa Cruz line, or all the way by the Santa Cruz division, leaving San Francisco by the Alameda ferry,



CITY HALL PARK, SAN JOSE.

at the foot of Market Street, and from Alameda coasting the eastern shore of the bay and passing through San Jose and Pajaro.

The Santa Clara Valley is one of the garden spots of California and has been occupied by horticulturists since the early days. It is bounded on the east by the coast range and on the west by the Santa Cruz Mountains, varying in width from fifteen to thirty miles. All fruits that can be

raised in California are successfully cultivated here, the leading product being prunes, of which Santa Clara raises about seven-eighths of the crop of California. It also supplies a large proportion of the flower and vegetable seeds raised in the United States, the fields in the blooming season presenting a striking appearance. There are numerous artesian wells.

San Jose.—Fifty miles from San Francisco is a handsome modern city of over 30,000 population, with broad, well-paved streets, fine business blocks, attractive residences and good hotels. A large business is done in the shipment of fresh, dried, and canned fruits, berries, wine, brandy and other products. There is a good electric street car system and a public park in the center of the city. Near San Jose is the New Almaden quicksilver mine, the largest of its kind on the western continent. San Jose was badly shaken up by the earthquake. The sum of \$400,000 has been voted to rebuild the city schools.

Many visitors are attracted to San Jose in the spring of the year, to witness the grand sight of thousands of acres of prune trees in full bloom. This is made the occasion for a fiesta, lasting a week, and winding up with a religious play at the Santa Clara college.

Santa Clara.—Connected with San Jose by a street car line; is the site of a large Catholic college.

Lick Observatory.—A stage from Santa Clara makes daily connection with the Lick Observatory, on Mount Hamilton, which is only thirteen miles distant in an air line, but twenty-six miles by the winding road. The observatory is at an elevation of 4,443 feet. It was a gift of the late James Lick, a millionaire of San Jose and San Francisco. The great telescope, with an aperture of thirty-six inches, cost \$55,000. Visitors are permitted to look through the telescope on Saturday nights between 7 and 10 o'clock. At all times they are shown through the observatory.

Los Gatos.—In the foothills of the Santa Cruz Range, is a picturesque little town in the heart of a celebrated fruit-growing region.

The small county of Santa Cruz embraces one of the most picturesque sections of the State, a region of steep hills, covered with great redwood trees, with quiet roads running through the shaded ravines and picturesque little valleys scattered here and there among the mountains, together with a breezy coast line. The climate on these hills, among the giant redwoods, is cool and delightful in summer. The county is well watered by mountain streams abounding in trout.

Large quantities of fruit are raised in Santa Cruz County. On the hill summits a specialty is made of winter table grapes. There are many attractive summer resorts among the mountains, where good accommodations may be had at a reasonable price. Among the best known of these are Glenwood Springs and Wrights.

The picturesque narrow gauge railroad, from San Jose to Santa Cruz, through the mountains and redwood forests, has been transformed into a broad gauge line.

Santa Cruz.—This city has been somewhat overshadowed of late years by the growing popularity of Monterey, but it has many charms of its own, the timber belt here coming near to the coast. There is a beautiful beach of fine white sand, and many interesting drives such as those to the Natural Bridge, Laguna Falls, Ben Lomond Road, Pebbly Beach and the Big Tree Grove, the latter being at Felton, on the railroad, five miles distant from Santa Cruz. It covers twenty acres and there are scores of trees from ten to twenty feet in diameter, the largest being 300 feet high and twenty-one feet in diameter. There is a fine Casino, with plunge baths, at Santa Cruz, and near the city a cement plant, costing three million dollars, has just been completed.

Watsonville.—On the southern border of Santa Cruz County; has a big beet-sugar factory, which represents the



BIG TREE STATION.

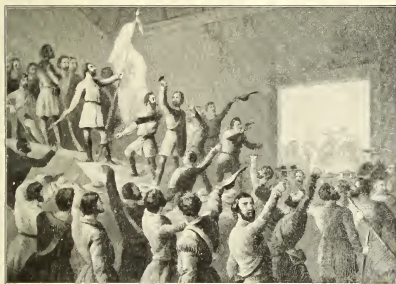
investment of over half a million dollars. In the same neighborhood immense quantities of strawberries are raised, the annual shipments amounting to over 2,000 tons. This is also the largest shipping point in the State for apples, and great quantities of fine potatoes are exported.

The county of Monterey is chiefly known to outsiders as being the site of the world-famous Hotel Del Monte. It possesses interest, however,

from an historical standpoint, as it was in Monterey that first in California a cross was planted, an altar erected and a mass celebrated by Viscaino in 1602. In 1770 the Mission of San Carlos de Monterey was founded and in the following year was removed to the Carmelo Valley, five miles back from the coast. The old stone church still stands, the remains of the founder, Junipero Serra, being buried beneath it. Here took place the first Indian baptism in California and the first European woman in the State arrived here in 1783. John C. Fremont hoisted the first American flag raised in California on a peak of the Gabilan Mountains in January, 1846. On July 7, 1846, Commodore Sloat raised the American flag and took possession of Monterey. The convention to form the first constitution for the State met

at Monterey, September 1, 1849. The first printing press in California arrived here in 1834.

Monterey.—The town of Monterey, on the picturesque bay of the same name, which is the third largest bay in the State, has the appearance of an old historic town, the adobes gradually giving way, however, to modern improvements. The county is sharply divided into mountain and plain, with a small range of intervening foothills. About half the entire area of the county is covered by the Santa Lucia Range. At



FREMONT RAISING THE FLAG AT MONTEREY, 1846.

Salinas is located the largest beet-sugar factory in the world. Soldiers are stationed at Monterey.

HOTEL DEL MONTE.—On the southern shore of the Bay of Monterey, occupying a most romantic site, is the far-famed Hotel del Monte, one of the best known hotels in the world.

Here the charms of nature, and a climate absolutely free from disagreeable extremes of heat and cold, have been seconded by the utmost that human resources, skill and taste can do to create an ideal resort.



ON THE GOLF LINKS AT DEL MONTE

The surrounding territory, a domain of several thousand acres connected with the hotel property, is threaded by carriage roads, trails for horseback riding and bicycle paths. The immediate hotel grounds are level and beautiful, with flower beds, lawns, and the carefully preserved ancient natural features afforded by vast, spreading live-oaks and towering pines.

There is a fine golf course only a short distance from the hotel. It is a sixteen-link course. As the result of many brilliant games played on it this course has come to be regarded as the golf center of the West.

Pacific Grove.—Two miles from Monterey is Pacific Grove, the annual camping ground of the Methodist Episcopal Church, a pretty town with 5,000 inhabitants during the height of the season. There is bathing, fishing and sailing, and many religious and temperance organizations hold conventions here.

Half a mile beyond Pacific Grove is an old granite lighthouse, and beyond that is Moss Beach.

What is known as the "Seventeen Mile Drive," including most of the points of interest in this neighborhood, is the roadway from the Hotel Del Monte through Monterey, crossing the peninsula, and past Pescadero Beach, Chinese Cove, Pebble Beach, Cypress Point, Seal Rocks, Moss Beach, and through Pacific Grove back to the hotel.

THE CENTRAL COAST SECTION OF CALIFORNIA.

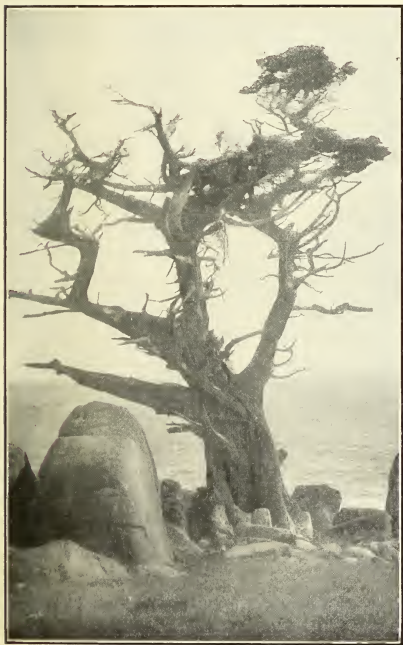
That section of California between San Francisco and Los Angeles, west of the Coast Range of mountains, is generally known as the Central Coast Counties. The distance between the two points named is four hundred and eighty miles. The counties embraced in this section are Santa Barbara, San Luis Obispo, Monterey, Santa Cruz, San Benito, Santa Clara, and San Mateo. The principal cities are

Santa Barbara, San Luis Obispo, Paso Robles, Salinas, Hollister, San Juan, Santa Cruz, Watsonville, San José, Palo Alto, Los Gatos, Redwood City, and San Mateo.

The climatic conditions of this section are equal to those of any other in the State. There is no malaria, no daily recurrence of sweeping winds. The rainfall is average, comes quietly and at a season when it does not interfere with the maturing or harvesting of crops. All conditions are ideal for the curing of products in the open air, and vegetation of all kinds thrives the year round.

For agriculture, horticulture, dairying, and like pursuits, California's Central Coast section has unlimited natural resources. For manufacturing, no other portion of the State can surpass this because of the climate, freedom from dust in the air, cheap factory locations, admirable transportation facilities by both rail and water, and the near presence of raw material in immense quantities.

In Monterey County is the largest sugar factory in the world, turning five hundred tons of beets into sugar daily; in Santa Clara County, the largest seed farms in the world and quicksilver mines, the output of which is only exceeded by those of Spain; also the most richly endowed educational institution in the world (Leland Stanford, Jr., University); in Santa Cruz County, some of the largest trees in the world. The largest fruit canneries, packing houses, and driers in the State are found in the Central Coast counties. Apples are shipped into every European market, and more prunes are produced annually than are grown in any other portion of the world. Some of the heaviest producing oil wells are in this section of California.



A RELIC OF THE STORMS ON DEL MONTE'S 17-MILE DRIVE.

THE NORTHERN COUNTIES.

The northern section of California, above San Francisco, embracing almost half the area of the State, is comparatively little visited by those who make a trip through Southern California, running up to Del Monte and spending a week or two in San Francisco. Yet there is much interesting and striking scenery in this region, which differs greatly from the southern part of the State, so that the traveler can not claim to have obtained a comprehensive idea of California unless he has at least made a short trip through the northern counties. The section has ample transportation facilities, there being a network of branches of the Southern Pacific system, while the Oregon branch of that company runs through the center of the region from north to south. The coast section is also served by a regular line of steamships.

Immediately north of San Francisco, across the bay and connecting with it by ferry, is the county of Marin, with a long water frontage on the Pacific. The surface of the county is broken and irregular, a spur of the Coast Range culminating in Mount Tamalpais, to which reference has been made on a previous page. The ocean coast is rugged, with numerous bays. The climate is moist, with fine pasturage, and the main industry is dairying, over three-fourths of a million pounds of fine butter being shipped annually. Most of the large ranches are stocked by the owners and leased at an annual rental, according to the number of cows.

San Rafael.—The county seat, has many fine buildings, public and private. It is a favorite place of residence for San Francisco business men and the hotels are crowded with invalids and tourists. Located in a sheltered valley, it is protected from the fogs. There is a glove factory, employing sixty people. A canal is being dredged to the bay. At San Quentin, on San Francisco Bay, about twelve miles

north of San Francisco, is the larger of the two California State prisons. Near California City the government is building a large coaling station to supply the Pacific fleet.

Sausalito.—Also a favorite place of residence for San Francisco business men, possessing features similar to San Rafael; is connected with San Francisco by a ferry making frequent trips, and is much in favor with picnic parties. Sausalito is the starting place for the North Shore Railroad, which runs through Marin and Mendocino counties to Cazadero, through some of the finest mountain and redwood scenery on the coast. Along the line are several attractive summer camps, and at the end of the road is a magnificent redwood grove.

Five miles from Sausalito this suburban line branches off to the residence town of Mill Valley, nestled among the redwoods at the base of Mt. Tamalpais. Mill Valley is the point of connection with the Mt. Tamalpais Scenic Railway, which winds around the mountain side and terminates at the summit. On the main suburban line the whole country is dotted with comfortable country homes, which are constantly increasing in number; among the thriving communities being Corte Madera, Larkspur, Kent, Ross Valley, San Anselmo, San Rafael and Fairfax.

The main line of the Northwestern Pacific Railroad branches off northwest at San Anselmo, passing through one of the most attractive redwood sections of California, which is famed for its comfortable summer resorts. It touches the Russian River at the station of that name, seventy-five and one-half miles from San Francisco, crosses the river at Duncan's Mills, seventy-nine and one-quarter miles from the metropolis, and terminates at Elim Grove and Cazadero.

The country en route is noted for its dairies, which produce superior butter that brings the highest price in the city markets; also general farming and poultry raising are leading industries. The section offers good inducements for settlers.

The Northwestern Pacific Railroad starts from Tiburon, in Marin County, connected with San Francisco by ferry from the foot of Market Street, and runs through Sonoma County to Ukiah, in Mendocino County, with branches to Glen Ellen, Guerneville and Sebastopol.

There is an important fruit district around Nevato, on the eastern side of Marin County, near the bay. The chief product of this section is apples, which are of extra fine quality. The bulk of the crop is shipped to Australia, where these apples have a great reputation and bring a high price. One large orchard on the Nevato ranch contains 22,000 apple trees, as well as other fruits. This orchard was planted in 1857, and has been in profitable bearing ever since.



SERRA'S MONUMENT, MONTEREY.

Sonoma is one of the oldest settled counties of the State. It is divided about equally into valley, rolling, foothill and mountain land. Large amounts of fine deciduous fruits are raised, there being a number of important fruit-packing establishments, but the main industry of the county is the manufacture of wine and brandy, there being about 25,000 acres of vineyard. The Sonoma clarets, burgundies, hocks, rieslings and other light wines have a national and even a foreign reputation. Some of the vineyards and wineries are conducted on an immense scale.

Santa Rosa.—The county seat, with a population of about 11,000, is a beautiful place of residence, in the center of a large fruit and wine district. Santa Rosa suffered more than any other city in proportion to size in the earthquake

and the entire business section was destroyed in the fire that followed. It is being handsomely rebuilt.

Near Santa Rosa, Luther Burbank, the "wizard of horticulture," has his home, and interesting experimenting grounds. They can only be visited by special arrangement.

Petaluma.—The next place of importance stands at the head of navigation, and is the center of the butter, poultry and dairy trade of the coast. It has three banks, two flour mills, a cannery, woolen mill, silk factory, three newspapers, excellent schools and fine churches. Poultry raising is the leading industry in the surrounding country. There is a mammoth winery.

Healdsburg.—Is surrounded by fruit farms, has banks, newspapers, a cannery, etc. Here is located a Seventh Day Adventist College. Cloverdale, in the north, is the center of a fine fruit belt. It possesses a bank, newspaper, churches and schools. Sebastopol, connected by a branch railroad with Santa Rosa, has in its vicinity a number of wineries, fruit driers, and hop driers. Glen Ellen, the location of a Home for Feeble-Minded Children, is the center of a large wine district. Duncan's Mills is the terminus of the North Pacific Coast Railroad. There are also numerous other flourishing places.

The largest valley in the county begins at Petaluma and continues in a direct line to Cloverdale, on the north. The Sonoma Valley begins at the bay and runs northerly twenty miles. There are eighteen miles of bay shore line, and more than sixty miles of ocean shore line. The streams are the Russian River, running southwesterly through the county, and draining three-fifths of its land, Petaluma Creek, and Sonoma Creek. Petaluma Creek is navigable for vessels of light draught. Small streams are numerous in all parts of the county. Petaluma and Sonoma valleys are separated from the Santa Rosa basin by a slight divide, just sufficient to divide the watershed into south and north slopes. On the west is the Coast Range; southeast is Sonoma Mountain,

2,400 feet high. Bennett Peak and Mounts Taylor and Hood are farther north. Away northeast is Geyser Peak, 3,740 feet high, and beyond Mount St. Helena overlooks the whole scene. High up these mountain slopes are many of the finest homesteads of the county.

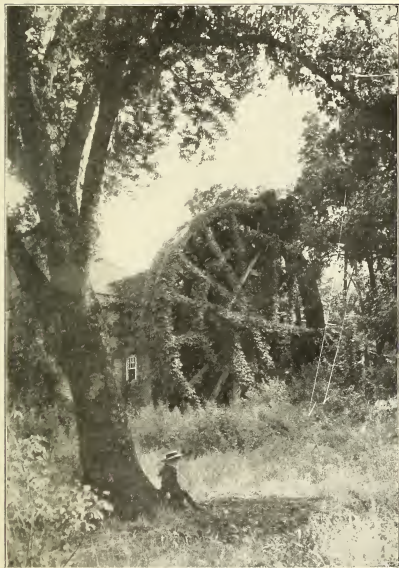
In the coast section of Sonoma County are about 80,000 acres of fine redwood timber, with lumbering camps and saw-mills which are worthy of inspection. Altogether there are over twenty sawmills in the county, which turn out 60,000,000 feet of lumber annually and over 10,000,000 shingles.

THE GEYSERS.—The county of Sonoma abounds in mineral springs and health resorts, reached by the Southern Pacific line to Calistoga, in Napa County, and by the California & Northwestern Railway. The Geysers are renowned the world over, and considered by many as second only to the Yosemite as a point of interest in the State. Among the most prominent of the springs are the Lytton Springs, Skaggs', Highland, Duncan and Vichy springs. The geysers were affected by the earthquake.

Napa is another garden section of California, thickly settled by well-to-do horticulturists and vineyardists, the wines of Napa County being as celebrated as those of Sonoma. There are many square miles in vineyard. The Napa Valley is reached by the Southern Pacific Railroad.

Napa County contains several mountain ranges, the chief elevation being Mount St. Helena, 4,500 feet high. The climate of the greater part of the country is delightful, the thermometer seldom rising higher than 90 degrees. In winter there is little frost, so that in some sections oranges are raised on a limited scale.

Napa City.—The county seat, with a population of nearly 6,000; is at the head of the Napa River, forty-five miles from San Francisco with regular stern wheel steamship connection. It is a beautiful little city, surrounded by prosperous farms, orchards and vineyards. An electric road was recently built from Vallejo.



OLD WATER-MILL, NAPA VALLEY.

St. Helena.—Has many fine business blocks, excellent and popular hotels, churches, banks, newspapers, and many large wineries, one with a capacity of over 3,000,000 gallons. Nearby is the leading Adventist Sanatorium on the Pacific Coast.

Calistoga.—At the head of the valley, and the terminus of the railroad; is surrounded by fine vineyards. Other towns are Oakville, Yountville, Rutherford, Monticello and Knoxville, all centers of prosperous farms, orchards and vineyards.



BLUE LAKE, LAKE COUNTY.

Napa River runs through the main valley from north to south. The two ranges unite in one at Mount St. Helena. East of Napa City, across the Howell Mountain Range, lies Pope Valley, and over a low divide, south of the latter, Chiles Valley, the two, jointly, about twenty miles long. Along the east line of the county lies Berryessa Valley, on the eastern slope, twenty miles long. Other small valleys are Capelle, Gordon and Wooden.

Napa City is a great favorite for residence with San Francisco business men and many elegant homes are found there. The hotels are first-class both here and at St. Helena and Calistoga. Near the latter place are hot springs. The balmy air, genial and healthful climate, and beautiful scenery make a residence or sojourn anywhere in Napa Valley delightful. The best educational and religious advantages are to be found in its towns, and the inhabitants are a social, refined and cultured people.



CLEAR LAKE, LAKE COUNTY

This picturesque section is rapidly being opened up by lines of electric railroad.

Lake is a unique county. It is not a large county, the area being a little more than 1,000 square miles, but it possesses a great variety of scenery, and has often been called the Switzerland of America. There are hills of varying altitudes, some 4,000 feet high, enchanting valleys and lovely

lakes, including Clear Lake, a beautiful sheet of water eight miles wide by twenty-five miles long, 1,200 feet above the sea, in a basin surrounded by mountains. There are several steamers on the lake, which make regular trips, carrying passengers and freight.

Lakeport.—The county seat; is a little city of about 1,200 population, beautifully located on the shore of Clear Lake.

The raising of blooded stock is a leading industry of Lake County. There are also important quicksilver mines. Kelseyville is lighted by natural gas.

Over a dozen health resorts attract visitors to Lake County, most of them owing their existence to mineral springs containing iron, sulphur, soda, magnesia and arsenic. These springs are best reached by way of Cloverdale, in Sonoma County, or Ukiah, in Mendocino County, and thence by stage. Other springs, such as Adams, Siegler and Bartlett Harbin, on the south of Clear Lake, are reached by stage from Calistoga.

Mendocino County, north of Sonoma, and adjoining Lake County on the northwest, is a region of redwood forests, of which less than 10 per cent has been cut. The wooded belt extends through the county from north to south and averages from fifteen to thirty miles in width. The timber is of gigantic size. Besides redwood, there are also large bodies of pine, spruce, tan-oak, mountain laurel, and madrona. There are many sawmills in the county, mostly in the coast region. The lumber is loaded, by chutes, on steam and sailing vessels and shipped to San Francisco and other ports. Hops, potatoes, grain, hay and alfalfa are the principal agricultural products. There are about a thousand acres in hops, the product being first-class. Next to Sacramento, Mendocino is the chief hop-growing section of California. Potatoes yield immense crops.

On the coast heavy fogs and strong winds are common. In the interior the weather is warm. The average annual rainfall at Ukiah is over thirty-three inches.

This region is the home of that remarkable tree, the redwood, furnishing a lumber, the great value of which has only recently begun to be fully appreciated.

Ukiah.—Is the county seat, with a population of about 3,000, located 700 feet above sea level, in the Ukiah Valley. Ukiah now has electric power from Eel River. A branch railroad is to be built to Eureka.

There are numerous springs in this county, the best known of which are Duncan Springs, near the Sanel Valley, Orr's Hot Springs with sulphur water, fourteen miles from Ukiah, and Vichy Springs, three miles from Ukiah, with a temperature of 85 degrees. These springs are well equipped with good hotels, cottages, baths, etc.

The counties of Trinity, Humboldt, Del Norte and Siskiyou lie together in the extreme northwest corner of the State, consisting of rugged hills, mostly covered with thick forests of redwood timber, with narrow valleys sloping down toward the wind and fog-swept coast.

Humboldt is noted for its fine potatoes. The principal industry is, however, the manufacture of redwood lumber. It is estimated there are 40 billion feet of standing redwood in the county. There are several shipyards.

Eureka.—The county seat of Humboldt, with a population of about 12,000; is the principal shipping port of the county, with two lines of steamers running to San Francisco, besides a large number of sailing vessels. Congress has appropriated several million dollars for improvements on Humboldt Bay.

Del Norte is a small county on the Oregon line. It is composed of a succession of mountain ranges, broken by narrow valleys. The Klamath River, a large stream, enters the ocean in this county. There are two salmon canneries near the mouth. Dairying is a leading industry. Apples are shipped.

Crescent City.—The county seat of Del Norte; a short



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CASCADES, SHASTA SPRINGS.

distance north of the mouth of this river, is the center of a dairy and lumber region.

The reclamation of over 300,000 acres of fertile soil by the Klamath irrigation project in eastern Siskiyou will bring in thousands of families.

Yreka.—Is located six miles from the main line of the California & Oregon Railroad, with which it is connected by a branch. Altitude, 2,540 feet.

The climate of this county is like that of the Middle States, although milder in winter. Heavy snows fall in the mountains and much in the valleys, so that winter travel among the hills is often on snowshoes. Good apples are raised.

For mountain scenery, trout fishing and hunting, and bracing atmosphere, no part of the State offers more attractions in the summer.

There are several important electric railroad projects under way, for this section of the state.

Mount Shasta.—In the southern part of the county is Mount Shasta, standing sentinel at the northern extremity of the Sacramento Valley. Its summit rises to an altitude of 14,450 feet, and is covered with perpetual snow. This is the grandest peak on the coast. The whole mountain range of this section is magnificent. The McCloud River is one of the most picturesque streams in the State, tumbling its waters for ninety miles through stony cañons and rugged ravines, over abrupt cliffs and through little green valleys. It is a favorite fishing stream and the United States Fish Commission has a salmon hatchery there.

Shasta County adjoins Siskiyou on the south. It is a large county, containing nearly 4,000 square miles. The rugged, lofty mountains of the Coast Range and Sierra Nevada, here approaching on the north, surround the county on all sides, except the south. Inclosed by them is a semi-circle of valley with foothills and plateaus forming the head of the Sacramento Valley and containing about 500,000 acres, at an elevation of from 500 to 2,500 feet. The central and southern portions consist of table-lands of about 700 feet elevation. There are four high peaks on the east, including Lassen, which is 10,577 feet in altitude. The principal rivers and creeks are Fall River, Pitt River, Hat Creek (upon which is located the United States hatchery), Roaring River, Montgomery, Squaw Creek, McCloud, and Little Sacramento. The total length of creeks and rivers in

the county is 250 miles. The mountains on the north and east show volcanic origin and extinct craters, cones, sulphur and lava beds. Boiling springs abound. The sawmills of Shasta County cut 50,000,000 feet of lumber in 1906. It is a great lumber region.

Redding.—The county seat; has fine county buildings, two banks, waterworks, gas and electric-light plants, newspapers, excellent school and church buildings, a Masonic Temple, the United States Land Office for the district, many first-class business buildings, and large warehouses. It is connected by rail with San Francisco and Portland. An electric road is about to be built to Red Bluff in Tehama County. Anderson, on the railroad, and the center of the fruit district and junction of Shasta Lumber Company's Railroad, has a large cannery, bank, newspaper and extensive lumber yards. Cottonwood is a fruit center on the railroad. Other thriving places are Fall River Mills with an immense water power and flour mills, and Millville, a fruit center in the foothills. Igo, Ono, French Gulch and Stella are mining towns.

The average rainfall is variable in various locations. At Reed's Camp, in Upper Sacramento Valley, for five years it was 71.8 inches annually; for the same period at Redding it was only 36.64 inches annually. As you ascend and go north the average increases. The summer temperature at Redding ranges between 70 degrees and 102 degrees, the latter seldom. In December, January and February it is never below 18 degrees. The foothills have an excellent climate, neither extremely hot nor cold.

There are delightful summer resorts in this county, along the Oregon division of the Southern Pacific Railway, similar to those in Siskiyou County, with grand scenery, mineral springs, fine mountain air, and trout fishing.

Modoc is a rectangular county, containing rather more than 4,000 square miles, in the northeastern corner of the State, bounded on the east by Nevada and on the north by

Oregon. It is a sparsely settled and little visited section of the State, having no railroad communication with the outside world, the total population of the county, according to the census of 1900, being only 5,076. Of the total area of the county, 1,500,000 acres is mountainous land, and 1,250,000 acres, valleys, plateaus, and lakes. The elevation of the valley lands ranges from 4,000 to 5,000 feet above sea level, and some of the mountains are 7,500 feet. The Warner range of mountains runs north and south through the eastern part, on the western slope of which are Goose Lake, Hot Springs, and smaller valleys. Big, or Round, Valley is about thirty miles by fifteen, and contains three good-sized lakes; Goose Lake is fifty miles by ten. The lava beds are in the northeastern part of the county, full of crevasses and caverns, and fit only for grazing. Pitt River drains the valley lands and empties into the upper Sacramento River. Numerous lakes are distributed throughout these valleys. Stock raising is the chief industry. There are 300,000 acres of fine timber, untouched.

Alturas.—The county seat of Modoc; has good county buildings, churches, newspapers, stores, hotels, and schools. Other towns are Cedarville and Fort Bidwell, in Surprise Valley; Adin, in Big Valley; Lake City, Lakeview, Eagleville, Willow Ranch, Pine Creek.

Lassen is a large county, with an area of 4,750 square miles, adjoining Modoc on the south. This county lies on the east of the Sierra Nevada Mountains and is a succession of mountain ranges and valleys. About 375,000 acres are valley, 325,000 acres are foothill and the remainder mountainous. In its eastern part the hills are regardless of order of arrangement; in the central and western parts their trend is mainly to the southeast and northwest. In the west Lassen Buttes rise over 10,000 feet above the sea level.

The air is bracing and tonic at such high elevation, and the climate exceedingly healthful. In winter there are heavy snowfalls. The climate approximates in character that of



WHITE CLOUD FALLS, TAHOE.

Salt Lake, though more agreeable, being cooler in summer and warmer in winter. No winter crops can be grown, and in summer little if any rain falls, rendering irrigation necessary. Irrigation projects are under way. The population is only about one to the square mile.

Susanville.—The county seat of Lassen is Susanville, located on the Susan River, just beneath the pine-covered summit of the Sierra Nevada, and on its eastern slope, at an elevation above the sea of 4,200 feet. It has ample water power. The place is a mass of shade, from its abundant orchards of apple, pear, peach, plum, prune, and cherry trees. It is a substantial, well-built, thriving town, with good public and business buildings, churches, schools, and two newspapers. The United States Land Office of the district is here located. There is a fine high school building. The principal towns are Amedee, present terminus of the Nevada & California Railroad from Reno; Bieber, on Pitt River; Janesville, Buntingville, and Millford, all with stores and mills, and surrounded with orchards and grain and hay ranches.

Tehama County adjoins Shasta on the south, the Oregon branch of the Southern Pacific Railway running through the center of the county from north to south. This county contains about 2,000 square miles of mountains, and 800 of foothills. There are 265 square miles of valley lands, or 169,600 acres. The Sacramento River flows through the valley from north to south. On the west the valley rises into low, level prairies, then into broken hills, with the steep and rugged Coast Range beyond. Numerous streams flow east into the Sacramento. On the east the valley is bounded by a lava flow, extending for twenty miles or more up the western slope of the Sierra Nevada, which beyond become very precipitous, and rise to 10,000 feet altitude.

Red Bluff.—The county seat of Tehama; is situated on the banks of the Sacramento River. Population about 3,000. It has fine county buildings, excellent hotels, banks, daily

newspapers, good school buildings, including a fine high school, and churches. Its cannery puts up over 10,000 cases of fruit. There is a large sash and door factory. A seventy-mile V flume brings sugar pine lumber here from the mountains. The business blocks and residences of this town are first-class, many of them elegant, and adorned with shade trees, orange trees, shrubs and flowers.

At Vina is the celebrated Stanford vineyard, one of the largest in the world, where are several thousand acres of vines in one body. The proceeds of this vineyard were used by Mrs. Stanford in support of the university which bears her son's name, and the policy is continued.

Corning.—On the Southern Pacific Railroad 110 miles north of Sacramento is the center of an extensive fruit, grain and stock growing section, and the railway station for the Maywood colonies.

South of Tehama is Glenn, a county mainly devoted to the growth of wheat, although many orchards and vineyards have been planted. The large ranches are being divided and sold in smaller tracts. There is a large sugar beet factory at Hamilton City on the Sacramento River. It can handle the product of 6,000 acres. The eastern portion of the county consists of level plains and valley lands, which are changed into rolling hills in the western portion, becoming more elevated and precipitous as you proceed westward, until they terminate in the mountains of the broken Coast Range. It is, however, in its great extent, a Sacramento Valley county. Stony Creek, a considerable stream rising in the Coast Range, runs easterly, dips north into Tehama County, then easterly again through Glenn County to the Sacramento River.

Willows.—The county seat of Glenn is Willows. It is located at the junction of the S. P. and W. & M. railroads, the latter being a branch running to Fruto, which will be extended to tap the timber belt of western Glenn County.

Next to the south is Colusa, another great grain-growing

section. The main part of the valley is devoted to wheat production. Before the segregation of Glenn County, on the north, Colusa in one year produced 7,250,000 bushels of wheat for export. Grain farming has been conducted on a colossal scale. Combined harvesters and threshers, drawn by traction engines, cut a swath of forty feet, the grain, in sacks, being thrown off at the rear. The same engines, in plowing season, drag twenty-four ten-inch plows, doing in twelve hours the work of one hundred mules for the same time. The grain ranches are mostly owned in very large acreage. Here also, however, large tracts are being subdivided and sold. An extensive system of irrigation has been inaugurated.

Colusa is the county seat. Other towns are: Maxwell, Williams, Arbuckle, College City. Colusa is a flourishing and pleasant town, with a bank, hotels, several fine public buildings and churches, first-class schools newspapers, and many handsome residences.

College City.—Is the seat of Pierce College. It is a strictly prohibition town, yet grapes are being largely raised around there. Williams has a newspaper, large grain warehouses, fine business buildings and residences.

Bartlett Springs.—From Sites, the terminus of the railroad from Colusa, stages take tourists to the famous Bartlett Springs of Lake County, near the western boundary of Colusa County.

Adjoining Colusa on the east is the small county of Sutter, with an area of 610 square miles. This small and fertile county has the Sacramento River for its western boundary, and is the only one in the State which lies wholly in the great valley. With the exception of the isolated Marysville Buttes, in the northern part, it is one great plain. The Buttes furnish excellent grazing. About 125,000 acres of the county are tule, or overflowed lands. The northern 10,000 acres of this body, reclaimed by levee system, are immensely

fertile and very valuable. Figs and grapes are largely grown.

Yuba City.—The county seat of Sutter, is located on Feather River, about a mile from Marysville, in Yuba County, with which place it is connected by street-car line. It has fine county buildings, bank, excellent schools, newspapers, and no saloons, as a prohibitory law exists in the county. The cannery located here does a large business, employing 500 people during the packing season. Other towns are Live Oak, Meridian, Sutter City, Nicolaus, Pleasant Grove.

East of Sutter is Yuba, another small county of about equal area. The southwestern portion is valley land, containing about 100,000 acres; the central foothill section has 136,000 acres, while there are 200,000 acres of mountain land. The county is abundantly watered by the Bear, Yuba, and Feather rivers.

Marysville.—The county seat of Yuba, is located on the Oregon & California Railroad, at the junction of Yuba and Feather rivers. It is a terminal railroad shipping point to and from the east, at the same rates with Stockton, Sacramento, San Jose, and San Francisco. It has water transportation by river to Sacramento and San Francisco. Many factories and wholesale houses are located here, notably woolen mills, flour mills, steel works, foundries, iron pipe and tank factories, agricultural implement works, pork packery, furniture works, and extensive fruit canneries. A large trade is carried on with many interior points. It has banks, newspapers, college, high school, fine public buildings, and an energetic and enterprising population. The Northern Electric Railroad has been completed into Marysville from the north and is being extended to Sacramento. The Western Pacific is completed from Oroville.

Wheatland has a bank, flour mills, newspapers, fine schools and churches, and does a thriving business as the

center of a highly fertile section. Other towns are Smartsville, Camptonville, Brownsville, Strawberry Valley.

Yolo County, in the heart of the rich Sacramento Valley, is washed on the eastern boundary by the Sacramento River; on the west it is sheltered by the Coast Range. Two important streams—Putah Creek on the south and Cache Creek on the north—cross it from west to east, till lost in the marshes bordering the Sacramento River. They both have many feeders. The latter rises in Clear Lake, in Lake County, and flows through the fertile Capay Valley. The greater portion of the county is level, except in the western part, where rise the foothills of the Coast Range, which are intersected by cañons and valleys. The tule lands along the Sacramento contain about 40,000 acres. There is little waste land in the county. A great irrigation system has been constructed.

Woodland.—The county seat of Yolo, is reputed one of the wealthiest cities for its population in the State. Its private residences are elegant and costly, and its hotels first-class. Its streets are wide, clean and lined with ornamental trees. Some of them are paved with bituminous rock. The city is well lighted with gas and electricity, and has efficient street car, fire department, telephone, express, and telegraph service, Carnegie library and other fine public buildings.

FACTS ABOUT CALIFORNIA.

California produces more honey than any other State.

California is the only raisin-producing State in the Union.

First oranges raised in California were at Santa Barbara in 1822.

Largest irrigation canals in the United States are in Kern, Fresno, and Tulare counties.

First white child born in California was son to Governor Fages, in 1787, at Monterey.

First railroad constructed in this State was in 1854, from Sacramento to Folsom, twenty-two miles.

The United States Mint, on Fifth Street, near Market, San Francisco, is the largest in the world.

All the quicksilver produced in the United States comes from California and from one mine in Oregon.

The barley crop of California is twice that of any other State and one-quarter of all that is produced.

Sacramento County, as shown by the census, is a greater producer of hops than any other county in the United States.

The richest educational institution in the world is the Leland Stanford, Jr., University, endowment \$20,000,000.

Topography renders it possible for California to duplicate all the climates and all the products of all the other States combined.

Napa County produced the largest crop of grapes that has ever been recorded. From 4,000 vines were picked sixty tons of grapes, making thirty-five pounds to the vine.

Largest tree in circumference in the United States is called "General Grant," in Tulare County, given by United States surveyors at 109 feet. The tallest tree is the "Keystone," in Calaveras, being 365 feet, 150 feet higher than the Bunker Hill monument.

Fine-blooded fast horses of California are noted the world over.

Santa Clara County has more than half the prune trees in America.

The coast line of California is 900 miles, with numerous good harbors.

Mount Whitney, 15,046 feet, is the highest peak in the United States.

The Lick telescope on Mount Hamilton, San Jose, is the largest in the world.

California has ten peaks over 10,000 feet high, and scores of high waterfalls, glaciers, and big trees.

California has many fine lakes. The most noted are Tahoe, twenty-five miles long, and Clear Lake, twenty-six miles long. Both support steamers.

Death Valley, Inyo County, is the lowest land in the world. United States geological surveyors have given it at 400 feet below the sea level.

The Sacramento River is the longest river, being 500 miles from its source in Goose Lake. The San Joaquin is 350 miles; Klamath, 275 miles; Feather, 250 miles.

ALTITUDES OF PLACES IN SOUTHERN CALIFORNIA.

	Feet.		Feet.
Mt. Grayback (Grizzly Peak)	11,725	Glendora	820
Mt. San Bernardino..	10,630	Hesperia	3,190
Old Baldy (San Antonio)	10,142	Las Vegas	6,398
Mt. San Jacinto.....	10,805	Los Angeles	270
Mt. Wilson	6,666	Mentone	1,647
Mt. Pinos	9,214	Murietta	1,090
Observatory Peak ...	6,723	Newhall	1,268
Mt. Lowe	5,650	National City	20
North Baldy	9,387	North Ontario	1,210
Arrowhead	2,225	North Pomona	1,070
Barstow	2,105	Oceanside	45
Banning	2,321	Orange	176
Beaumont	2,564	Oro Grande	2,631
Bear Valley	6,592	Pasadena	829
Cajon	2,923	Perris	1,456
Summit	4,119	Point of Rocks	2,425
Corona	602	Pomona	854
Cottonwood	2,274	Raymond	748
Colton	978	Redlands	1,351
Del Mar	122	Rialto	1,203
Duarte	547	Riverside	851
Elsinore	1,284	San Bernardino	1,077
Encinitas	85	San Diego	42
Escondido	654	San Jacinto	1,537
Etiwanda	1,337	Santa Ana	137
Fallbrook	307	Santa Fe Springs.....	158
Garvanza	536	Temecula	1,019
		Victor	2,723
		Wildomar	1,245

SPANISH NAMES AND THEIR MEANING.

Adobe, clay.	Campo, field; country.
Agua Tibia, warm water.	Carlos, Charles.
Alameda, shady walk.	Carmencita, little Carmen.
Alamitos, small cotton-woods.	Casa Blanca, white house.
Alcatraz, pelican.	Cayucos, canoes.
Alesandro, Alexander.	Centinela, sentinel.
Aliso City, Sycamore City.	Centro, center.
Almaden, a mine.	Cerrillos, little hills.
Alturas, heights.	Chico, small.
Amador, lover.	Chino, Chinaman or half-breed.
Anita, Annie.	Cienega, marsh.
Antonio, Anthony.	Cojo, cripple.
Arguello, family name.	Capistrano, named from an Italian saint.
Arroyo Seco, dry ravine.	Colorado, red.
Asfalto, asphalt.	Conejo, small rabbit.
Atascadero, bog.	Cordero, lamb.
Avenal, an oatfield.	Coronado, crowned (named for the explorer).
Ballena, whale.	Corral, enclosure.
Balso de Chamisal, cane-brake.	Corralitos, small enclosures.
Bella Vista, beautiful view.	Cota, jacket.
Bernardino, little Bernard.	Covina, a little cane.
Boca, mouth.	Coyote, a prairie wolf.
Bonita, pretty.	Creston, big chest.
Buena Vista, good view.	Del Norte, of the north.
Buenos Ayres, good airs.	Del Sur, of the south.
Cahuilla, Indian tribe name.	De Luz, of light.
Cajon, large chest or box.	Descanso, resting place.
Calabajas, pumpkins.	Dos Palmas, two palms.
Calaveras, skulls.	Dulzura, sweetness.
Caliente, hot.	

- El Cajon, the large box.
El Capitan, the captain.
El Casco, the hamlet.
El Dorado, the gilded.
El Monte, the hill.
El Morro, the castle.
El Paso, the pass.
El Toro, the bull.
Encinitas, evergreen oaks.
Encino, oak.
Escondido, hidden.
Espada, sword.
Estero, salt marsh.
Estrella, star.
Farallones, small pointed islands.
Fresno, ash tree.
Gardena, garden spot.
Garvanza, wild pea.
Goleta point, Schooner point.
Graciosa, graceful.
Hermosillo, little beauty.
Hornitos, little ovens.
Isleta, little island.
La Canada, the valley; glen.
Ladrillo, brick.
Laguna, lake or pond.
La Mesa, the table land.
La Onda, the wave.
La Panza, the paunch.
La Patera, the goblet.
La Punta, the point.
Las Animas, the souls.
Las Casitas, the little houses.
Las Cruces, the crosses.
Las Flores, the flowers.
Las Pasitas, the little raisins.
Las Penasquitos, the small cliffs.
Las Virgenes, the virgins.
Lerdo, slow.
Lindo Rosa, pretty rose.
Lindo Vista, pretty view.
Lobos, wolves.
Loma Alta, high hill.
Loma Prieta, black hill.
Lomas, hills.
Los Alamitos, the little cottonwoods.
Los Alamos, the cottonwood.
Los Berros, the water cresses.
Los Cienegas, the marshes.
Los Coyotes, the prairie wolves.
Los dos Pueblos, the two villages.
Los Feliz, the happy.
Los Gatos, the cats.
Los Nietos, the grandchildren.
Los Olivos, the olive trees.
Los Palos Verdes, the green trees.
Los Perros, the dogs.
Los Pueblos, the villages.
Los Vallecitos, the little valleys.
Lugonia, a flower.
Manzana, apple.
Mesa, table-land.
Mira Flores, flower view.

- Monserate, a town in Spain.
Montecito, little hills.
Morro, castle or tower.
Murietta, Spanish family name.
Nacion, a nation.
Nuevo, new.
Pajaro, bird.
Pampa, plain.
Paso de Robles, pass of the oaks.
Pescadero, fisherman.
Picacho, peak.
Pinacate, pine tree.
Plumas, feathers.
Posa, passing bell.
Posmo, drone.
Potrero, pasture (or pillar).
Potrero los Pinos, pine pasture.
Pozo, a well.
Presidio, garrison.
Prietos, black (plural).
Providencia, providence.
Pueblo, village.
Puente, bridge.
Punta de la Concepcion, point of the conception.
Punta de la Laguna, point of the lake.
Punta Gordo, thick point.
Purissima, immaculate.
Ranchito, little ranch.
Redondo, round.
Rincon, corner.
Rio Vista, river view.
Rivera, shore.
Roblar, oak grove.
Rodeo, cattle round-up.
Sacramento, sacrament.
Salinas, salt pits.
San Andreas, Saint Andrew.
San Buena Ventura, Saint Bonaventure.
San Clemente, Saint Clement.
San Diego, Saint James.
San Jacinto, Saint Hyacinth.
San Jose, Saint Joseph.
San Luis Obispo, Saint Louis the bishop.
San Marcos, Saint Mark.
San Miguel, Saint Michael.
San Miguelito, little Saint Michael.
San Pablo, Saint Paul.
San Pedro, Saint Peter.
San Rafael, Saint Raphael.
Santa Barbara, Saint Barbara.
Santa Catalina, Saint Catherine.
Santa Cruz, holy cross.
Santa Fe, holy faith.
Santa Gertrudes, Saint Gertrude.
Santa Maria, Saint Mary.
Santa Paula, Saint Paulina.
Santa Rosa, Saint Rose.
Santa Ynez, Saint Inez.
Santa Ysabel, Saint Isabel.
Santiago, Saint James.

Saucelito, little willow.	Vallecito, little valley.
Savanna, meadow.	Vallejo, valley.
Sierra, mountain chain.	Valle Vista, valley view.
Sierra Madre, mother mountain range.	Vara, pole or staff.
Sierra Nevada, snowy range.	Vaso, glass.
Solano, east wind.	Ventura, luck.
Soledad, solitude.	Verde, green.
Tia Juana, Aunt Jane.	Verdugo, young branch.
Todos Santos, all saints.	Vervain, verbena.
Tropico, tropic.	Viejo, old.
Valle, valley.	Vista, view.
	Ysidora, Isidora.

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For some of the data in this book the author is indebted, among others, to the Los Angeles *Times*, the San Francisco *Chronicle*, and to publications of the State Board of Trade and Los Angeles Chamber of Commerce.

LONG BEACH.



LONG BEACH BATH HOUSE

THE cut shown represents the Long Beach Bath House, America's finest bathing establishment. It is a modern structure, such as would be a credit and an ornament to, and is not to be found at any Atlantic resort. Has cost upward of \$125,000.00

The proportions of the building are imposing, it having a frontage toward the ocean of 305 feet and a depth of 204 feet. The architecture is of a classic style. In order to dispense with an objection to the use of such an establishment in the minds of many ladies who do not care to bathe in a plunge utilized by the general public, two have been built in this bath house—one for the exclusive use of ladies and children, 20x40 feet in diameter; the other for the accommodation of all comers, 60x120 feet measurement.

The women's department, separated from the other portions of the establishment, is equipped with parlors, lavatories, and dressing rooms to the number of one hundred and seventy-five.

SEVEN HUNDRED DRESSING ROOMS

with showers, lavatories, and all other necessary conveniences are provided for the men's department. Separate apartments are provided for the women's and for men's tub baths—twenty for each.

Connected with the main building is a separate structure for the accommodation of ten regulation bowling alleys.

From the observation gallery in the interior of the bath house, visitors may ascend to a roof promenade which extends throughout the entire length of the building on the ocean side.

The beach offers the best bathing in Southern California, since its slope is so very gradual to the sea, with safety lines in the surf, separate plunges for the sexes, hot and cold salt tub baths, and many attractions, such as music, bowling, and skating, all under the efficient management of the

LONG BEACH BATH HOUSE & AMUSEMENT CO.

The Plain, Cold Facts

Long Beach, during the past three years, HAS BEEN GROWING FASTER than any city of its size in the world.

Long Beach had an assessed valuation four years ago of \$1,000,000. In 1908, \$16,000,000. "Something Doing."

Long Beach has more public improvements going on, more building, and more business in general than any city in the west of twice its size.

Long Beach is finishing the finest docking harbor on the coast; over six miles of water frontage, where over one hundred steamers and schooners may load and unload at the same time.

Long Beach: Population 25,000 in 1908, and will soon be 100,000.

Long Beach is the natural water terminal, the shipping and receiving point of all the vast southwestern part of these United States.

Long Beach has the finest bathing beach and the best all the year 'round climate in California.

Long Beach has a million dollar hotel and many other hotels, affording ample accommodations for the public.

Long Beach NOTABLE ATTRACTIONS: The longest double-decked stone pleasure pier in the world, 1,800 feet; with sun parlor, promenade, auto drive, boat landings, restaurants, vending stands, and fishing platforms. A grand Auditorium capable of seating 8,000 people, good acoustics, dancing floor for 500 couples, used by church, Chautauqua, and other conventions; second

About Long Beach, Cal.

floor is tabled and prepared for picnic parties, and will seat 3,500 people. All the beach amusements, such as roller coaster, vaudeville theaters, skating rinks, and merry-go-rounds.

Long Beach maintains a Royal Italian Band at great expense, giving two free daily concerts throughout the year.

Long Beach has, exclusive of the Sutro Baths of San Francisco, the largest and finest bath house on the coast.

Long Beach is the center of the Chautauqua, and is a temperance city; NO SALOONS makes her rich, and an exceptional residence city.

Long Beach schools are the pride of her people—as good as the best—and her churches are many and beautiful.

Long Beach appeals most of all to the capitalists and manufacturers who are seeking an ideal location, in a hustling city on the water front, for their business.

Long Beach is the "Queen of the Sundown Seas." It charms the merchant, the business man, and, most of all, the man who is looking for a home.

Long Beach has now a world wide reputation. Give us a call, for when you return home your friends will surely ask you, "DID YOU VISIT LONG BEACH?"

For information address,

CHAMBER OF COMMERCE,

Long Beach, Cal.



Venice of America

Venice of America is the nearest beach to the great city of Los Angeles, being only fourteen miles distant

The great asphalt pier extending out two thousand feet from the end of the beautiful arcaded Windward Avenue to the break-water, with the great Dancing Pavilion, Ship Hotel Cabrillo, and the Auditorium as attractive features, give us the most unique resort on the coast.

The great bath-house on the ocean front and another on the lagoon, where still-water swimming and boating may be had, makes it both safe and pleasant for all who enjoy aquatic sports.

Special attractions in the Auditorium and a band of sixty pieces with the dancing in the pavilion, skating in the rink, bathing, boating, and other attractions secure continuance of healthy recreation at all seasons.

LOS ANGELES.

BEAUTIFUL VENICE



HE VILLA CITY AFFORDS PEOPLE AN OPPORTUNITY TO LIVE IN COMFORT AT THE SEASIDE FOR LESS MONEY THAN THEY COULD IN THE CITY

Besides enjoying the exceptional advantages for swimming, boating, bathing, canocing, fishing; in fact Venice is the place ideal for the lover of all wholesome out-door sports.

The villas are completely furnished and so appointed as to make house-keeping a delight and rent for \$10.00 to \$30.00 a month according to size and location. This includes laundry, artesian water, electric lights, and the removal of garbage. Gas at meter rates.

As Venice is on the regular excursion routes, tourists are as much in touch with Southern California's other points of interest as they would be in the city.

Venetians, whose business is in the city, make trips to and fro quickly, in comfort, and at a nominal cost. With the improvements now being made by the Los Angeles Pacific Railway, Venice will soon be but twenty-five minutes from Fourth and Broadway, Los Angeles.

Venice is an ideal city in every way. Both winter and summer it affords amusements, educational advantages, and unequaled climatic conditions.



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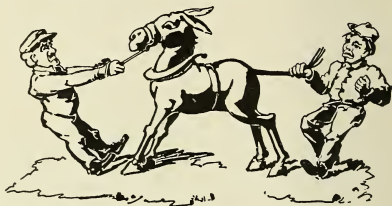
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NATIONAL CITY, CALIFORNIA

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An attractive, thriving little city only 10 minutes' ride from San Diego. Churches, schools, high school and electric railway service. Located on the Bay, along which we offer some splendid factory sites as well as residence sites. The new railroad passes through National City. An excellent place for investment.

In the City of San Diego

We have a large number of attractively located residence sites, any one of which is a good investment. And for those desiring inexpensive property we have on sale about 4000 acres of Pueblo lands, in the northerly part of the city. Upon these prices range from \$5 to \$50 per acre.

If interested in the most prosperous part of Southern California, let us hear from you

SAN DIEGO LAND COMPANY

No. 326 Granger Block, SAN DIEGO, CALIFORNIA.

SAN DIEGO.

St. Joseph's Sanitarium

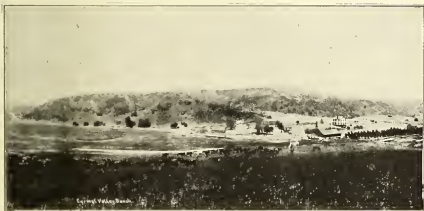
SAN DIEGO, CALIFORNIA.

Ideal location, 500 feet above the Bay. Conducted by the Sisters of Mercy. Spacious, well-kept grounds. Main building four stories, electric lighted ventilated, and heated by Hot Water System. All modern conveniences.

Is designed to serve as a place for rest or medical treatment. Patients have choice of physicians. Parties may be met at train or steamer.

Terms, \$1.50 to \$4.00 per Day

In separate buildings, the Sisters conduct a HOME FOR OLD PEOPLE. Each inmate has a private room well furnished, lighted, and ventilated, and access to ample recreation grounds. Charges for life, from \$1,500 up. Married couples accommodated. Correspondence solicited.



The Carmel Valley Ranch

OFFERED FOR SALE

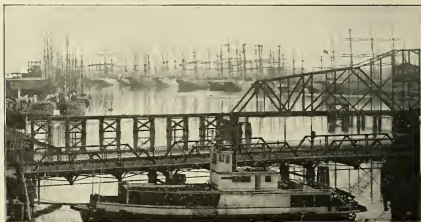
This valuable tract consists of 1,050 acres of agricultural and grazing land in San Diego County, California, lying about two miles south of Del Mar, a station on the Santa Fe Railroad, and one mile from the ocean. It has good buildings, eighteen-room residence and barns for two hundred head of cattle. Fourteen miles of fencing. Abundance of water. Will be sold with or without the stock, part cash down.

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Address **SISTERS OF MERCY**

St. Joseph's Sanitarium

SAN DIEGO, CAL.



SCENE IN OAKLAND HARBOR

Superlative Oakland

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MOST
RAPIDLY
GROWING
CITY
IN THE
UNITED
STATES

THERE CAN BE BUT ONE SUPERLATIVE and when the statement is made that Oakland, Cal., is the most rapidly growing city in the United States, the superlative is used judiciously and will be proven when the next census report is issued.

There are very many reasons why this is so, which will be appreciated by all thinking persons.

First — Oakland is situated in the Coast center of the great State of California with its growing commercial relations with the Orient and all ports of the Pacific.

Second — Oakland is located on the CONTINENTAL or land side of San Francisco Bay, directly opposite the Golden Gate.

Third — Being so situated, it is the terminal to-day of the Southern Pacific, Central Pacific, Santa Fe, and Western Pacific railroads and the natural and geographical terminal of all prospective transcontinental railroads. Passengers and freight are transferred by ferry from Oakland to San Francisco and other points.

Fourth—Oakland has fifteen miles of water-front and a harbor so sheltered that vessels may lie at anchor with perfect safety in any storm. Rail and water transportation are united on the wharves in Oakland.

Fifth—The climate of Oakland, according to United States Government figures, is the most equable of any city in the State.

These are but a few of very many reasons why one contemplating making a change should write for more explicit information and free illustrated literature.

POPULATION

1890—Official Census	48,632
1900—Official Census	66,960
1902—Municipal and Postal Census....	82,974
September, 1907—Conservative Estimate	235,000

POST OFFICE RECEIPTS

For Fiscal Years Ending June 30th

1905.....	\$165,624.27
1906.....	258,659.16
1907.....	428,430.01

ASSESSED VALUATION OF OAKLAND

1906-1907.....	\$ 64,000,000.00
1907-1908.....	101,000,000.00

THE BUILDING PERMITS

Issued for the Fiscal Years, Ending June 30th,
Tell a Tale of Progress, as Follows:

Realty sales in Oakland during the
year 1906 amounted in round
figures to\$50,000,000.00

If you are interested, write to-day for FREE ILLUSTRATED LITERATURE and any explicit information you may desire to the
SECRETARY OAKLAND CHAMBER OF COMMERCE, OAKLAND, CALIFORNIA

**FIGURES
DON'T
LIE**

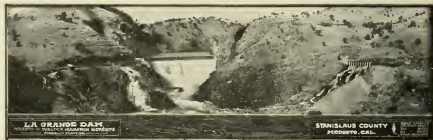
**AND TO
THE
BUSINESS
MAN MEAN
MORE
THAN
WORDS.
ARE THESE
FIGURES
CONVINCING**

?

MODESTO.

Irrigated Lands

in Modesto-Turlock District
CENTRAL CALIFORNIA



Do you know any one looking for a
Home and Income - Paying Property?

If so, send his name to us, that we may give him authentic information of the local opportunities that are offered in the marvelous Modesto-Turlock Irrigation Districts, the land of sunshine and promise, where water is transforming the once broad acres of grain fields, into orchards and vineyards and alfalfa fields.

Here, as elsewhere, "Water is Wealth," and water in abundance is supplied from the Tuolumne River, which has the most extensive water-shed of any stream in California, and the water, through legislative enactment, belongs inalienably and forever to the lands of these districts. Every land owner is entitled to an equal share of the water without extra charge because the **WATER BELONGS TO THE LAND.**

These districts comprise 260,000 acres of the most fertile land in the great San Joaquin Valley, situated in the central part of California. The land is of a rich sandy loam and is wonderfully adapted to the culture of vines and all varieties of fruits, vegetables, and berries. It is also suitable for alfalfa raising, as is evidenced by the great number of dairy herds that have been imported from other portions of the State, and that are being raised here, and by the many creameries that have been built, and skimming stations that have been established, since the districts have been in successful operation, some four years.

No place in California affords equal opportunities for men of small (or moderate) means to secure homes.

The climate is ideal — never too cold in winter nor too warm in summer to be uncomfortable.

If there is a farmer in the United States who wants to better his condition let him make inquiries at once about these two great irrigation districts, which are in the initial stage of settlement and development.

FREE

Upon request we will send you booklets and literature giving full history of the advantages and marvelous growth of these districts, and will answer specific questions asked.

**NOW IS THE TIME TO INVEST. IT WILL SOON BE TOO LATE,
IT MAY MEAN YOUR FORTUNE.**

Write

**STANISLAUS BOARD OF TRADE
MODESTO, CALIFORNIA**

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IRRIGATED LANDS IN THE MODESTO-
TURLOCK DISTRICT. WE HAVE SUCH
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PRICES RANGE FROM

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PER ACRE, ACCORDING TO LOCATION

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COME TO THE LAND
OF OPPORTUNITY

THE GREAT SACRAMENTO VALLEY

Where the products of the soil make people rich.
A land of wonderful fertility and of matchless climate.

It is the place for the homeseeker or for the capitalist
with money to invest.

The United States Department of Agriculture has its
only Plant Introduction Garden in the Sacramento Valley
and the State Agricultural College is here.

This valley produces the greatest variety of crops of
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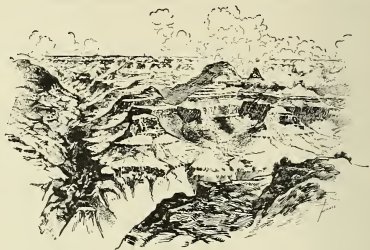
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